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THE NATIONAL FLOOD INSURANCE PROGRAM: A REGULATORY APPROACH FOR REDUCING FLOOD LOSSES

by
Virginia R. Van Sickle
Research Coordinator
Energy Programs Office
Louisiana State University

Abstract

Despite the fact that Federal expenditures for flood protection works have nearly doubled since 1966, flood damages in the United States have continued to rise and are estimated to approach $3 billion each year. The increases are largely attributable to expanding urban development and the unwise management of the nation's flood plains.

The National Flood Insurance Program provides two basic lines of defense against flood losses. First, it allows property owners in designated flood hazard areas to purchase flood insurance. Second, it requires communities to adopt and enforce flood-plain management regulations to reduce the probability and severity of flood damage. If administrative problems within the program can be overcome, the program could provide a widespread means for reducing flood losses and discouraging increased development of flood plains.

Introduction

Floods have been, and continue to be, one of the most destructive natural hazards affecting human life and property in the United States. Traditionally, the primary method for reducing flood damage in the United States has been through structural measures such as dams, dikes, levees, channel improvements and seawalls. Generally these are constructed at public expense.[1]

Since the adoption of the National Flood Control Act of 1936, the Federal government has invested over $9 billion in flood protection works, and state and local governments have invested additional millions. While these projects have contributed greatly to reducing or preventing the loss of life, flood damages have been increasing each year since 1936 with average annual losses exceeding $1 billion.[2]

The two-fold purpose of this report is to 1) document the primary causes of the increasing flood damages in the United States and 2) to briefly review the current national emphasis for reducing flood losses—The National Flood Insurance Program. The program is evaluated for its effectiveness in regulating the use and development of the nation's flood plains. Program progress and impediments to program goals and schedules are also presented.

Urban Development and Flood Losses

Flood plains constitute about 6 percent, 200,000 square miles, of the conterminous United States.[3] Flood plains are relatively flat areas of land which adjoin inland and coastal waters and which have been or may be inundated by floodwater.[4] Despite the fact that floods destroy crops and livestock, disrupt cities, cut off transportation, erode soils, and take human lives, man has persistently settled in the flood plain because of the many benefits he can obtain there. The soils and low relief of the flood plain are generally desirable for growing agricultural commodities. The streams of a flood plain provide sources of water and food, and can be used for waste disposal. Streams constitute main arteries of commerce and are, therefore, considered ideal town sites.[5]

It is generally recognized that the works of man constructed in the flood plain may be periodically subjected to flood damage. It is not so frequently recognized that these same works of man can also affect the magnitude of flooding.[6] The literature clearly establishes that urbanization of open space increases the rapidity of runoff, the total flood volume and the peak discharge expected from a given rain storm.[7]

The hydrologic parameter most affected by urbanization appears to be lag time. Lag time is defined as the time from the center of mass rainfall excess to the center of mass direct runoff.[8] The construction of urban storm water systems and impervious surfaces (e.g., paved streets, parking lots) may reduce lag time of a drainage system to one-eighth that of a natural basin. This lag time reduction increases flood peaks by a factor that ranges from two to nearly eight, dependent upon the size and slope of the drainage area.[9]

The percent of impervious cover in a drainage basin is a measure of the degree of development of that drainage basin. The volume of the mean annual flood increases with the degree of imperviousness.[10] Changing a rural basin (less than one percent impervious) to a developed urban basin (greater than 35 percent impervious) will increase the magnitude of the two-year flood about nine times and the magnitude of the 50-year flood about five times.[11]

As urbanization encroaches upon a flood plain, it becomes increasingly necessary to elevate land surfaces with fill material to prevent flooding. At the same time, agradation of stream channels by increased sediment production during the construction phases of urban development serve to increase flood height. Generally, the urban response to rising high water levels has been to construct flood protection works such as levees and floodwalls. These structures further restrict stream discharge and cause additional increases in flood stages.[12] The combined effects of urbanization and associated flood protection works upon flood stages are illustrated in Figure 1.

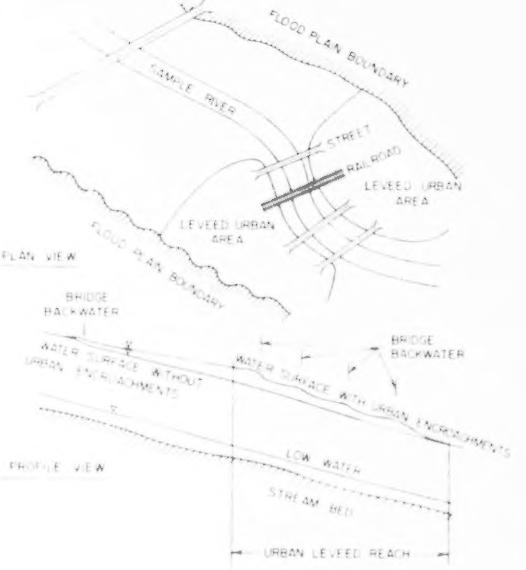

Figure 1. Combined effects of urbanization and levees on flood stages (Dougal, 1969).

Structural measures, while lending some protection from floods, cannot physically or economically eliminate the potential for flood damage. Engineering structures are designed to afford only varying degrees of protection. Such a structure does not prevent damage from great and infrequent floods that exceed the maximum water levels for which a structure was designed. If levee heights are exceeded by flood waters, damage to developed urban areas may be substantial. Perhaps most important of all, the presence of flood protection works often fosters more development in the flood plain.[13] It is reported that for every $6 spent for flood control, $5 is spent by the public expanding into the flood plain.[14]

Since 1966, expenditures to protect urban development from floods have nearly doubled. Average annual flood damages are now estimated to approach $3 billion and are continuing to rise.[15]

It has become increasingly evident that non-structural measures must be used in conjunction with structural measures to avoid losses to future development and to reduce losses to existing uses. These non-structural devices include, among others, flood-plain zoning ordinances, encroachment regulations, subdivision regulations, building codes, easements, government acquisition of land, permanent evacuation, warning signs, disaster relief, and flood insurance.[16] These nonstructural devices are directed to modify the susceptibility to flood damage and/or the impact of flooding on individuals and communities.

The National Flood Insurance Program

Background

With the increasing frequency and damages of flood disasters during the past 20 years, a greater emphasis has been placed on efforts to plan and regulate urban development of flood plains and on programs to insure flood victims against property losses. In 1965, Congress directed the Secretary of the Department of Housing and Urban Development (HUD) to study alternative methods for providing federal disaster insurance for communities impacted by severe floods.[17]

The HUD study affirmed the feasibility of a program to offer Federal insurance at a subsidized rate for those who had built in the flood plain without fully knowing or understanding the consequences. However, it emphasized that such a program would by viable only if 1) actuarial (non-subsidized) premium rates would be charged for future construction in flood plains and 2) communities would be required to implement flood-plain management regulations to reduce or avoid future losses. In return, communities participating in the program would receive the benefit of federally subsidized insurance for previously existing structures.[18]

As a result, Congress enacted the National Flood Insurance Program. In December 1968, the Federal Insurance Administration (FIA) was created to administer the program. The program provides two basic lines of defense against flood losses. First, it allows property owners in designated flood hazard areas to purchase flood insurance. Second, for federally subsidized insurance to be made available, communities must adopt and enforce flood-plain management regulations to reduce the probability and severity of flood damage.[19]

Between 1968 and 1973, the National Flood Insurance Program operated on a voluntary basis. Communities could enter the program if and when they desired. The requirements for participation in the program were strengthened under the National Flood Disaster Protection Act of 1973. The 1973 Act required communities to enter the program within one year after identification of flood-prone areas by the FIA. The act further required that property owners obtain flood insurance as a condition of federal or federally-related financing for the acquisition or construction of property in designated flood hazard areas.[20]

Emergency and Regular Programs

Under the original or regular program, as described in the 1968 Act, insurance could not be made available until a detailed flood insurance study had been made for the participating community. These studies are used to establish actuarial rates for coverage and to determine and map the level at which new construction would be reasonably safe from flooding. This time-consuming requirement severely restricted the rate at which new communities could be brought into the program. In December 1969, the 1968 Act was amended to implement a two-year emergency program.

Table 1
Federal Insurance Administration actuarial premium rates
for a one-story residential structure (Louisiana Department
of Urban and Community Affairs, 1980).

Elevation of First Floor above (+) or Below (-) Base Flood Elevation (BFE)	NO BASEMENT				WITH BASEMENT			
	ZONES				ZONES			
	A1-A7	A8-A14	A15-A17	A18-A30	A1-A3	A4-A7	A8-A9	A10-A30
+ 5 or more	.01	.01	.01	.01	.10	.10	.10	.10
+ 4	.01	.01	.01	.01	.10	.10	.10	.10
+ 3	.01	.01	.02	.04	.10	.10	.10	.10
+ 2	.01	.02	.05	.08	.10	.10	.11	.13
+ 1	.01	.07	.10	.15	.90	.30	.24	.22
0 (1st fl. at BFE)	.12	.16	.19	.23	4.78	.84	.49	.33
- 1	.48	.31	.31	.34	13.13	2.13	.95	.49
- 2	1.59	.55	.47	.48	*	4.95	1.77	.71
- 3	*	.93	.70	.64	*	6.73	3.15	.98
- 4	*	1.48	1.00	.83	*	*	5.16	1.36
- 5	*	2.34	1.40	1.07	*	*	*	1.87
- 6	*	2.86	1.91	1.34	*	*	*	2.52
- 7	*	*	2.62	1.66	*	*	*	3.40
- 8	*	*	3.53	2.02	*	*	*	4.56
- 9	*	*	*	2.48	*	*	*	5.21
-10	*	*	*	3.03	*	*	*	*
-11 or lower	*	*	*	*	*	*	*	*
Non-Elevation Zone Rate	.35	.55	.73	.95	7.36	2.01	1.33	1.12

* Use $25.00 Rate.

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Under subsequent amendments extending the emergency program, the FIA must complete its studies on all flood-prone communities by August 31, 1983.[21]

The emergency program is an interim program that provides a limited amount ($35,000 for structural and $10,000 for contents on a one to four-family residential structure) of flood insurance coverage at a subsidized rate. It is available to owners of existing and new construction in communities awaiting a detailed FIA flood study. Once the FIA flood study and insurance rate maps are completed, the community is eligible for the regular program. Under this program the first layer limits (as outlined for the emergency program) are supplemented with an additional layer ($35,000 structural and $10,000 contents) at the actuarially established rate. The first layer limits remain at the subsidized rate.[22]

At the present time the subsidized rate for a single family dwelling is $0.25/$100 for structural coverage. The actuarial rate varies according to the relative elevations of the first floor and the 100-year base flood (i.e., flood levels which have a 1 percent chance of being equalled or exceeded in any given year). The FIA actuarial rates for a one-story residential structure are given in Table 1. Using this table, the second layer of insurance provided to a home owner in the regular program would cost $25/$100 of structural coverage if the elevation of the first floor was three or more feet below the level of the 100-year flood and if the house was located in one of the highest probable flood hazard zones (Zones A1-A7 in Table 1). Actuarial rates decrease as the elevation of the first floor of a structure approaches the elevation of the 100-year base flood and as the flood hazard factor for the zone of development decreases.[23]

Once the detailed flood insurance study and rate maps have been prepared actuarial rates for new construction should indicate to prospective developers and buyers the extent of the existing flood hazard. The cost of flood insurance under the regular program should serve to discourage unwise development in the flood plain.[24]

Flood-Plain Management Regulations

To maintain eligibility in the regular program communities are required to adopt enforceable flood-plain management regulations within six months of the date they receive a detailed FIA flood insurance study and rate map.[25] In addition to insurance applications, flood insurance studies and rate maps are designed to assist communities in the development of sound flood-plain management regulations.

The 100-year flood described previously has been adopted by the FIA as the base flood for the purposes of flood-plain management under the regular program. The 500-year flood is employed to indicate additional areas of flood risk in the community. Both the 100-year and the 500-year flood-plain boundaries are shown on each FIA flood insurance rate map.[26]

The concept of a floodway is used as a tool to regulate urban encroachment on flood plains. Under this concept, the area of the 100-year flood is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood-plain areas that must be kept free of encroachment in order that the 100-year flood be carried without substantial increases in flood heights. The floodway is delineated as a special flood hazard area on each flood insurance rate map. The area between the floodway and the boundary of the 100-year flood is the floodway fringe. The FIA (1977) defines this zone as the portion of the flood plain that could be completely obstructed without increasing the elevation of the 100-year flood by more than one foot at any point. The 100-year flood level is determined using historical flood staging and discharge data; increases in flood heights due to urban development are not considered in determining these boundaries.

FIA's Flood-Plain Management Division has developed guidelines for flood-plain management regulations for communities entering the regular program. The requirements governing the adequacy of flood-plain management regulations adopted by a particular community depend on the amount of technical data FIA provides. At a minimum, each community's flood-plain management regulations must comply with the following requirements set forth in FIA regulations:

—Consider neighboring flood-plain management programs.

—Regulate land use and development of special flood hazard areas.

—Require building permits for all proposed construction or other improvements in the flood-plain area having special flood hazards.

—Major repairs in special flood hazard areas should use methods and material to minimize flood damage.

—New construction and substantial improvements (including mobile homes) in special flood hazard areas must use methods, materials, and be anchored to minimize flood damage.

—New subdivision and development proposals, including their utilities and drainage, should be consistent with the need to minimize flood damage.

—New water and sewer systems (including onsite systems) should be located to avoid impairment or contamination during floods.

—New residential construction and substantial improvements should be elevated to the 100-year flood level.

—Non-residential construction and substantial improvements should be elevated or flood-proofed to the 100-year flood level.

—In riverine situations, combined uses in special flood hazard areas should not raise the 100-year flood level more than one foot.

The Flood-Plain Management Division is responsible for monitoring the implementation and enforcement of adopted regulations. Communities may be suspended from the program for failure to adopt or enforce flood-plain management regulations. Suspended communities cannot receive the benefits of subsidized insurance protection and are subject to the financial sanctions of the 1973 Act. The community's eligibility remains terminated until, upon satisfactory evidence of an active flood-plain management program, the community is reinstated by the Administrator of the FIA.[27]

Program Progress—1968 to Present

When the flood insurance program was initiated in 1968, there were approximately 5,000 flood-prone communities which had been identified by the U.S. Army Corps of Engineers. By December 1973, the number had increased to about 13,600 and by June 30, 1975, there were 21,411 identified flood-prone communities. Once notified of their flood-prone designation, communities have one year to qualify for the emergency program.[28]

By June 30, 1975, FIA had notified 15,137 communities (70 percent of the designated flood-prone communities) and there were 9,877 communities participating in the program. Because of the growing number of communities involved, it became apparent that FIA could not prepare the necessary information and preliminary maps required for notifying communities fast enough to meet their 1983 deadline. Through interagency agreements executed in 1975, the U.S. Army Corps of Engineers, U.S. Geological Survey, and the Soil Conservation Service assisted the FIA in the preparation of the information for designating flood-prone communities. The FIA estimated that the identification and notification of all flood-prone communities would be completed by mid-1977.[29]

Approximately 85 percent of all identified flood-prone communities are participating in the program at the present time. Most of these communities, however, remain in the emergency program because detailed FIA flood studies and rate maps are not complete. In Louisiana, for example, there are 291 identified flood-prone communities. Ninety-six of these communities have entered the regular program and are implementing flood-plain management regulations as required by the FIA. One hundred sixty-two communities are enrolled in the emergency program; 33 communities have failed to enter the program and are subject to the sanctions which are applied to suspended communities, as previously described.[30]

Conclusions And Recommendations

The National Flood Insurance Program has broad implications for the widespread utilization of flood-plain management regulations in the United States. There are three major benefits to be derived from the program: 1) future development is regulated so that the probability of future flood damages is minimized, 2) space for the 100-year flood to pass down the floodway without significant rise in stages due to encroachment is preserved, and 3) subsidized insurance is available to those who have previously built in the flood plain and have suffered losses due to urban development and related increases in flood discharges.

The major problems encountered have been associated with the time delays in notifying communities of their flood-prone designation and in completing the flood insurance studies and rate maps required for communities to enter the regular program. Since the program was initiated in 1968, these delays have resulted in continued development in flood-prone areas and in the perpetual insurance protection of these high-risk developments at subsidized rates.

It is recommended that the following actions be taken to insure that the program goals of flood damage reduction and flood plain management are achieved:

1) require FIA to establish firm schedules for completing studies of all flood-prone communities by the August 31, 1983, deadline.
2) provide the necessary budget adjustments and/or interagency agreements to accomplish (1) above.
3) require FIA to prepare a detailed plan for monitoring regular program implementation. This plan should be completed prior to January 1, 1981, and should address the following:
    a. adoption and enforcement of flood plain management regulations consistent with the 1968 Act.
    b. enforcement of financial sanctions by federal and federally-related lending institutions.
    c. procedures for reporting community problems and progress.
4) eliminate first-layer subsidized insurance under the regular program for all new construction in designated flood hazard areas.
5) require the U.S. Army Corps of Engineers to evaluate all new federal flood protection works in terms of
    a. their cumulative impacts on flood heights.
    b. the need for such structures, assuming successful implementation of flood-plain management regulations.
    c. cost/benefit ratios which consider the development attracted to the flood plain due to the presence of flood protection works.

FOOTNOTES

[1] E. Liebman, "Legal Problems in Regulating Flood Hazard Areas," Journal of the Hydraulics Division, ASCE. (1973), 99(HY11), pp. 2113-2133.

[2] General Accounting Office, "Formidable Administration Problems Challenge Achieving National Flood Insurance Program Objectives," A Report to Congress by the U.S. Comptroller General. (1976), 81 pp.

(cont'd. on p. 14)

THE DIVISION ECONOMIC REPORT

by
A. M. M. Jamal
Research Economist

National Outlook

The economy is continuing on the slow track to recovery that started during the third quarter of 1980. Employment held steady at a seasonally-adjusted 97.2 million in October. The unemployment rate was 7.6 percent in October, compared with the 7.5 percent unemployment rate in the previous month. Much of the gain in industrial output was being undermined by persistent inflation.

The Federal Reserve Board's index of industrial production grew at a seasonally-adjusted rate of 1.6 percent in October, following gains of 1 percent and 1.3 percent in August and September, respectively. Production of consumer goods advanced 1.2 percent, mostly due to a 13.6 percent increase in the production of autos. Output of construction materials grew only 1.7 percent following a 3.2 percent growth in each of the two previous months. Output of industrial materials went up 2.2 percent, signifying recovery in the basic metal industries such as steel. Production of business equipment advanced 0.7 percent. However, this gain in production was not being matched by increasing sales, implying a slowdown in production gains in the coming months.

Retail sales dropped 100 million dollars in October, reversing the trend of the four previous months. The loss was due to a decline in sales in consumer durables. Rising interest rates and sluggish growth in real personal income have discouraged consumers from buying big ticket items on credit.

The construction of new residential buildings increased a mere 1.6 percent annually in October. This compares to the 9.0 percent gain in the previous month. Sales of new homes fell 13.8 percent in September, and the high mortgage rates will continue to discourage the purchase of new homes. Thus, the recovery in construction activities is expected to reverse in the next few months.

The Consumer Price Index (253.9) advanced 1.0 percent in October, largely due to the increased cost of housing. The Producer Price Index for Finished Goods rose at an annual rate of 10.6 percent in October, following a decline of 2 percent in September. This rise will affect the prices paid by the consumer in the near future.

The growth in money supply has continued to exceed the target set by the Fed. M1-B, which is the sum of currency, demand deposits, and other checkable deposits, grew at a 21-percent annual rate in October. Any action by the Fed to restrict the supply of money will raise interest rates to higher levels in the short run. This, in turn, will restrict housing construction and the sales of expensive consumer durables, automobiles, and business investment.

The forecasts for the U.S. economy appear in Table I. Personal income is expected to grow over 9 percent during the final quarter of 1980. These monetary gains, however, will be negated by an inflation rate exceeding 10 percent. The slow economic recovery is restricting the growth in employment. The unemployment level will continue to be above 7.5 percent for the rest of the year.

Louisiana and Metropolitan Area Outlook

Statewide, employment increased 1.2 percent in September, representing the third consecutive month of growth. Most of the gains were in the areas of manufacturing, construction, trade, and government. Manufacturing employment has grown for two consecutive months, signifying that the economy has begun to recover from the recession. Employment in construction grew

(cont'd. on p. 13)

TABLE I
THE DIVISION ECONOMIC FORECAST: UNITED STATES AND LOUISIANA
(seasonally-adjusted annual rates of change)

		Real Personal Income Growth		Employment Growth		Unemployment Rate	
Year	Quarter	U.S.	Louisiana	U.S.	Louisiana	U.S.	Louisiana
1980:	2	-4.2*%	-0.8*%	-3.6*%	-6.7*%	7.5*%	7.1*%
1980:	3	2.9*	4.1	0.1*	1.4*	7.6*	6.2*
1980:	4	-1.0	-0.8	0.8	1.0	7.6	6.8
1980: Average		-0.4	1.3	-0.4	1.8	7.2	7.0
1981:	1	-1.0	-0.2	1.7	1.9	7.5	7.0
1981:	2	1.1	2.0	1.6	1.9	7.3	6.5
1981:	3	2.4	3.3	2.0	2.4	7.2	6.3
1981:	4	2.7	2.6	1.2	1.4	7.0	6.0
1981: Average		1.0	1.9	1.7	1.9	7.2	6.4
1982:	1	4.0	5.1	1.6	1.9	6.8	6.0

NOTE: Because of seasonal adjustment, the reported growth rates may not correspond to other published growth rates.

*Actual.

ECONOMIC SUMMARY

INTERNATIONAL

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
[1] TRADE WEIGHTED DOLLAR (MAY 29, 1970=100) (OCT.)	82.70	-2.0	+1.6	N.A.
[2] MERCHANDISE TRADE BALANCE (EXPORTS MINUS IMPORTS) (MIL. $,AUG.)	-132.2	-94.0	-55.6	+5.5
[2] NET EXPORTS OF:				
MEATS AND POULTRY (MIL. $,AUG.)	-83.9	+8.0	-19.7	-33.1
PETROLEUM AND PRODUCTS (MIL.$,AUG.)	-5,663.1	+14.2	+9.3	+53.4
CHEMICALS (MIL. $,AUG.)	1,143.2	+27.2	+5.1	+33.5
TRANSPORT EQUIPMENT (MIL. $,AUG.)	-15.5	-140.5	-94.9	+605.5
[2] EXPORTS OF:				
RAW COTTON (MIL. $,AUG.)	155.9	+4.6	-18.1	+57.1
SOYBEANS (MIL. $,AUG.)	434.1	+38.3	+23.7	+23.0
RICE, GRAINS, AND CEREALS (MIL. $,AUG.)	1,613.1	+15.2	+11.8	+29.5
UNITED STATES				
[3] CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS U.S. CITY AVG(1967=100)				
ALL ITEMS (OCT.)	253.9	+12.6	+0.9	N.A.
[3] PRODUCER PRICE INDEXES (1967=100)				
FINISHED GOODS(OCT.)	252.2	+12.5	+1.3	N.A.
CONSUMER FINISHED GOODS (OCT.)	253.6	+12.9	+0.7	+14.8
INTERMEDIATE MATERIALS (OCT.)	286.3	+12.3	+0.8	+15.6
CRUDE MATERIALS (OCT.)	336.0	+16.1	+1.3	+11.4
[4] INDEX OF 12 LEADING INDICATORS (1967=100) (SEPT.)	133.6	-4.6	+2.4	N.A.
[5] INDUSTRIAL PRODUCTION INDEX (1967=100) (OCT.)	146.0	-4.4	+1.6	N.A.
[5] TOTAL ENERGY INDEX (1967=100) (OCT.)	138.3	+1.0	-1.1	N.A.
[6] TOTAL CIVILIAN LABOR FORCE (NUMBER, SEPT.)	105,034,000	+1.5	+0.0	N.A.
[6] TOTAL EMPLOYED (NUMBER, SEPT.)	97,207,000	-0.3	+0.2	N.A.
[6] UNEMPLOYMENT RATE (SEPT.)	7.5	+29.3	-1.3	N.A.
[7] HOUSING STARTS (PUBLIC AND PRIVATE) (UNITS, OCT.)	153,900	-8.9	+11.4	-29.3
[8] PERCENT YIELD ON 3-MONTH FEDERAL SECURITIES (OCT.)	11.62	-0.7	+13.1	N.A.
[8] PERCENT YIELD ON STATE AND LOCAL BONDS (Aaa, OCT.)	8.38	+34.1	+0.2	N.A.
[8] AVERAGE PERCENT YIELD ON CORPORATE BONDS (OCT.)	13.07	+22.0	+2.1	N.A.
[9] M1-A --MONEY STOCK (CURRENCY PLUS DEMAND DEPOSITS) (BIL. $, SEPT.)	383.7	+4.9	+1.1	+4.6
[9] M1-B --MONEY STOCK (M1-A PLUS OTHER CHECKABLE DEPOSITS AT BANKS AND THRIFT INSTITUTIONS) (BIL. $, SEPT.)	406.8	+6.4	+1.3	+6.0
[10] SALES OF ORDINARY LIFE INSURANCE (THOUS. $, SEPT.)	30,059,048	+23.3	+4.4	+13.9
[11] BANK DEBITS (BIL. $, SEPT.)	65,111.5	+19.5	-0.4	+25.9

n.a.—either not applicable, or not printed to maintain confidentiality

[1] *Wall Street Journal*: figures effective on Oct. 31, 1980 only

[2] *Highlights of U.S. Export and Import Trade*, U.S. Dept. of Commerce

[3] Bureau of Labor Statistics, U.S. Department of Labor

[4] *Business Conditions Digest*, U.S. Department of Commerce

[5] *Industrial Production* (G. 12.3), Federal Reserve System

[6] *Employment and Earnings*, U.S. Department of Labor

[7] U.S. Dept. of Commerce

[8] Federal Reserve Statistical Release G. 13, Federal Reserve System

[9] *Monetary Trends*, Federal Reserve Bank of St. Louis

[10] Life Insurance Marketing & Research Ass'n., Hartford, Conn.

[11] Federal Reserve Statistical Release G. 6, Federal Reserve System

[12] South Central Bell Telephone Co. Figures for company-owned phones as of the end of the month

[13] Dun & Bradstreet, Inc., New York City, N.Y.

[14] Office of the Secretary of State. Includes new domestic charters filed between Oct. 1-Nov. 3, 1980

[15] Dept. of Revenue, State of La., Baton Rouge, La.

[16] R. L. Polk & Co., Cincinnati, Ohio

[17] Estimates taken from *Weekly Statistical Bulletin*, American Petroleum Institute, Washington, D.C.

[18] La. Office of Agricultural Statistician, U.S. Dept. of Agriculture, cooperating with the Dept. of Agricultural Economics & Agribusiness, LSU

[19] F. W. Dodge Division, McGraw-Hill Information Systems Company

[20] Figures shown for end of the month. Excludes interbank, U.S. Government, and time deposits

[21] Bank debits charged to demand deposit accounts. Excludes interbank & U.S. Government accounts

[22] Federal Home Loan Bank of Little Rock, Arkansas

[23] La. Dept. of Employment Security, Baton Rouge, La. New series—not comparable to any previous years' figures

[24] Budget Office, Division of Administration, State of La., Baton Rouge, La.

NEW ORLEANS AREA

[25] New Orleans, Slidell, Covington, Norco, Luling, Paradis, Kenner

[26] Gretna, Harvey, Metairie, Westwego, Marrero, New Orleans, Arabi, Chalmette, Norco, Luling

[27] New Orleans International Airport

[28] Incls. inbound & outbound cargo passing over public facilities

[29] Greater New Orleans Tourist & Convention Commission

[30] *Monthly Retail Trade—Sales & Accounts Receivable*, U.S. Dept. of Commerce

[31] Area figure for New Orleans, Covington, Luling, Arabi, Chalmette

[32] Gretna, Westwego, Kenner, Grand Isle, New Orleans, St. Bernard Parish, St. Charles Parish, Covington, Slidell, Madisonville, Mandeville, Pearl River

[33] Orleans, St. Bernard, Jefferson, & St. Tammany parishes.

[34] Orleans, Jefferson parishes, Covington, Slidell, with 13 banks missing for deposits, and 12 banks missing for debits

BATON ROUGE AREA

[35] Baton Rouge, Zachary, Donaldsonville

[36] Donaldsonville, Gonzales, Baton Rouge, Baker, Zachary, Denham Springs, Port Allen

[37] Donaldsonville, Baton Rouge, Denham Springs

[38] Capital City Press

[39] Greater Baton Rouge Airport District

[40] Incls. imports & exports of general cargo passing over public facilities

[41] Area figure for Donaldsonville, Baton Rouge

[42] Incls. permits for elec., air conditioning, & plumbing for Donaldsonville, Gonzales, Baton Rouge, Baker, Zachary, Denham Springs, Port Allen

[43] Donaldsonville, Gonzales, Baton Rouge, Baker, Zachary, Denham Springs, Port Allen, with 4 banks missing for deposits and 7 banks missing for debits

LAKE CHARLES AREA

[44] Lake Charles, Sulphur, Vinton

[45] Lake Charles

[46] Lake Charles Municipal Airport

[47] Incls. inbound & outbound cargo passing over public facilities

[48] Lake Charles, Westlake

ALEXANDRIA AREA

[49] Alexandria, Pineville, Colfax

[50] Alexandria, Pineville

[51] Rapides Parish Municipal Airport

[52] Alexandria, Pineville, Lecompte

[53] One bank missing

[54] Rapides, Avoyelles, Grant parishes

SHREVEPORT-MINDEN AREA

[55] Shreveport, Minden

[56] Bossier City, Shreveport, Vivian, Minden, Springhill

[57] Shreveport Airport Authority

[58] Area figure for Shreveport, Minden, Springhill

[59] Bossier City, Shreveport, Springhill, Cullen

[60] Bossier City, Plain Dealing, Shreveport, Vivian, Minden, Springhill, with one bank missing

BASTROP-MONROE AREA

[61] Monroe, West Monroe, Bastrop

[62] Monroe Municipal Airport

[63] Bastrop, Monroe, Sterlington

[64] Ouachita Parish only

[65] One bank missing for deposits and two banks missing for debits

LAFAYETTE AREA

[66] City of Lafayette, towns of Broussard, Carencro, Duson, Youngsville

[67] Lafayette Airport Commission

[68] Area figure for Lafayette

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LOUISIANA

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[12] TELEPHONES IN SERVICE (NUMBER, OCT.)	2,799,534	+4.4	+0.4	+5.1
POSTAL RECEIPTS ($, SEP. 6--OCT. 3)	11,901,718	+4.4	+9.3	+4.6
[13] BUSINESS FAILURES (NUMBER, AUG.)	1,009	+6,626.7	+3,503.6	+959.2
[13] BUSINESS FAILURES ($, AUG.)	345,408,000	+10,373.3	+2,232.9	+968.6
[10] SALES OF ORDINARY LIFE INSURANCE (THOUS. $, SEPT.)	723,134	+31.2	+9.4	+22.0
NEWSPAPER ADVERTISING LINAGE (OCT.)	N.A.	-11.7	+11.2	-3.0
[14] NEW CORPORATIONS (NUMBER, OCT.)	1,209	+40.9	+11.7	+5.6
TRADE				
WHOLESALE SALES ($, OCT.)	N.A.	+7.9	+5.5	+9.2
[16] NEW PASSENGER CAR SALES (NUMBER, SEPT.)	14,311	+0.2	-12.1	-9.9
[16] NEW TRUCK SALES (NUMBER, SEPT.)	5,553	-15.7	-21.6	-19.2
PRODUCTION				
[17] CRUDE PETROLEUM AND LEASE CONDENSATE PRODUCTION (42-GAL BBLS, OCT.)	41,400,000	+3.1	+2.6	-1.6
NORTH LOUISIANA (42-GAL. BBLS., OCT.)	2,805,000	-0.2	+3.3	-3.5
SOUTH LOUISIANA (42-GAL. BBLS., OCT.)	38,595,000	+3.4	+2.6	-1.4
CRUDE RUNS TO STILLS (BBLS., DAILY AVG. FOR OCT.)	962,348	-16.5	+8.6	-9.1
ELECTRIC POWER CONSUMPTION (KWH, OCT.)	N.A.	+4.1	-11.5	+2.3
INDUSTRIAL ELECTRIC POWER CONSUMPTION (KWH, OCT.)	N.A.	-0.9	+0.9	+0.0
PRICE INDEXES FOR LOUISIANA FARM PRODUCTS [18]				
ALL CROPS INDEX (1967=100) (OCT.)	240	+11.6	+2.1	+7.4
ALL LIVESTOCK INDEX (1967=100) (OCT.)	250	-6.4	-1.2	-11.6
ALL FARM PRODUCTS INDEX (1967=100) (OCT.)	244	+3.8	+0.8	-0.9
CONSTRUCTION				
NUMBER OF BUILDING PERMITS (OCT.)	5,140	+2.2	+3.7	N.A.
VALUE OF BUILDING PERMITS ($, OCT.)	67,435,952	-2.0	-13.2	-17.6
[19] VALUE OF CONSTRUCTION CONTRACTS ($, SEPT.)	303,400,000	N.A.	N.A.	-10.8
RESIDENTIAL ($, SEPT.)	118,600,000	N.A.	N.A.	-19.7
NONRESIDENTIAL ($, SEPT.)	86,100,000	N.A.	N.A.	-28.7
NONBUILDING ($, SEPT.)	98,700,000	N.A.	N.A.	+58.1
FINANCE				
[20] BANK DEMAND DEPOSITS ($, OCT.)	4,038,765,523	+16.0	+1.6	+8.5
[21] BANK DEBITS ($, OCT.)	22,852,739,004	+14.8	+7.3	+29.3
[22] RESIDENTIAL MORTGAGE LOANS ($, SEPT.)	121,700,000	+82.2	+11.1	-18.0
EMPLOYMENT AND UNEMPLOYMENT [23]				
NUMBER EMPLOYED (NONAGRICULTURAL, OCT.)	1,565,100	+3.4	+0.5	+2.7
TRADE EMPLOYMENT (OCT.)	365,900	+2.7	+0.5	+2.3
GOVERNMENT EMPLOYMENT (OCT.)	306,300	+2.5	+1.2	+3.9
SERVICES AND MISCELLANEOUS EMPLOYMENT (OCT.)	261,700	+4.5	+0.5	+2.6
MANUFACTURING EMPLOYMENT (OCT.)	213,400	-0.6	+0.4	-1.4
TRANSPORTATION, COMMUNICATION, AND PUBLIC UTILITIES EMPLOYMENT (OCT.)	116,200	+0.0	-0.1	+0.3
CONTRACT CONSTRUCTION EMPLOYMENT (OCT.)	142,900	+11.6	+0.1	+7.8
FINANCE, INSURANCE, AND REAL ESTATE EMPLOYMENT (OCT.)	76,000	+2.6	+0.4	+2.9
MINING AND QUARRYING EMPLOYMENT (OCT.)	82,700	+9.8	+0.7	+7.6
UNEMPLOYMENT RATE (OCT.)	6.1	-3.2	-1.6	N.A.
AVERAGE WEEKLY MANUFACTURING HOURS (NUMBER, OCT.)	41.4	-0.2	+0.5	N.A.
AVERAGE WEEKLY MANUFACTURING EARNINGS ($, OCT.)	331.20	+12.6	+1.5	N.A.
REVENUE COLLECTIONS [24]				
SEVERANCE TAX ($, OCT.)	55,334,241	+32.4	-1.6	+23.2
SALES TAX: GENERAL ($, OCT.)	61,585,112	+13.5	-2.0	+13.6
MOTOR VEHICLE ($, OCT.)	8,504,934	+1.5	-14.8	-0.5
GASOLINE TAX ($, OCT.)	13,346,360	-1.4	-5.1	-4.5
ROYALTIES, RENTALS, AND BONUSES ($, OCT.)	33,016,282	+18.6	-13.3	+81.3
INCOME TAXES: INDIVIDUAL ($, OCT.)	24,908,525	+24.6	+14.0	+2.5
CORPORATION ($, OCT.)	13,539,648	-21.2	-64.0	+24.0
CORPORATION FRANCHISE TAX ($, OCT.)	1,953,374	+16.6	-21.4	+24.0
TOBACCO TAX AND PERMITS ($, OCT.)	5,387,079	+6.0	-1.5	+5.1
ALCOHOLIC BEV. TAX, BEER TAX, AND PERMITS ($, OCT.)	4,395,931	+16.8	-4.3	+3.5
OTHER TAXES, FEES, AND PERMITS ($, OCT.)	35,528,773	+10.3	-0.2	+21.3
TOTAL REVENUES ($, OCT.)	257,500,259	+14.1	-10.8	+22.4

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NEW ORLEANS AREA

(INCLUDES JEFFERSON, ORLEANS, ST. BERNARD, ST. CHARLES, AND ST. TAMMANY PARISHES)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[25] TELEPHONES IN SERVICE (NUMBER,OCT.)	955,586	+2.8	+0.4	+3.4
[26] POSTAL RECEIPTS ($,SEP.6--OCT.3).	4,717,301	+6.0	+9.6	+2.5
[27] AIRLINE PASSENGER BOARDINGS (NUMBER,SEPT.)	232,704	-7.6	-11.4	-8.0
[27] AIRLINE CARGO (TONS,SEPT.)	1,854.4	+22.7	+9.3	-10.8
[28] OCEAN SHIPMENTS-PORT OF NEW ORLEANS (TONS,OCT.)	1,102,490	-38.8	-9.7	-1.6
[29] ATTENDANCE OF CONVENTIONS AND MEETINGS (NUMBER,OCT.)	79,360	+13.1	+74.6	+8.2
TRADE				
[30] DEPARTMENT STORE SALES ($,AUG.)	47,900,000	+8.7	+8.2	+9.4
WHOLESALE SALES ($,OCT.)	N.A.	+8.3	+8.3	+8.3
PRODUCTION				
[31] ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	+6.3	-11.2	+2.2
CONSTRUCTION				
[32] NUMBER OF BUILDING PERMITS (OCT.)	840	+2.7	+25.0	N.A.
[32] VALUE OF BUILDING PERMITS ($,OCT.)	31,972,736	-2.9	-16.4	-20.1
[33] VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	29,900,000	N.A.	N.A.	-1.1
NONRESIDENTIAL ($,SEPT.)	12,900,000	N.A.	N.A.	-16.8
FINANCE				
[34] BANK DEMAND DEPOSITS ($,OCT.)	972,240,086	+6.4	-0.4	+5.8
[34] BANK DEBITS ($,OCT.)	5,336,332,206	+1.1	+2.5	+13.1
[33] RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	56,700,000	+75.5	-2.4	-19.2
EMPLOYMENT AND UNEMPLOYMENT [23,33]				
UNEMPLOYMENT RATE (SEPT.)	5.7	-5.0	+1.8	N.A.
REVENUE COLLECTIONS [15]				
SALES TAX COLLECTIONS ($,SEPT.)	15,331,369	+23.6	+13.0	+14.9

BATON ROUGE AREA

(INCLUDES ASCENSION, E. BATON ROUGE, LIVINGSTON, AND W. BATON ROUGE PARISHES)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[35] TELEPHONES IN SERVICE (NUMBER,OCT.)	365,026	+5.2	+0.5	+5.1
[36] POSTAL RECEIPTS ($,SEP.6--OCT.3).	2,135,566	+6.4	+11.6	+6.6
[37] NEWSPAPER ADVERTISING LINAGE (OCT.)	N.A.	-6.6	+11.7	-3.3
[38] NEWSPAPER CLASSIFIED LINAGE (OCT.)	1,181,047	-6.6	+2.3	-5.5
[38] NEWSPAPER CLASSIFIED AD COUNT (NUMBER,OCT.)	99,450	-7.8	+0.5	-3.5
[39] AIRLINE PASSENGER BOARDINGS (NUMBER,OCT.)	22,252	-6.2	+11.4	-1.7
[39] AIRLINE CARGO (TONS,OCT.)	40.5	-37.3	-32.0	-7.3
[40] OCEAN SHIPMENTS-PORT OF BATON ROUGE (TONS,SEPT.)	28,331	-40.0	-63.5	+17.0
TRADE				
[30] DEPARTMENT STORE SALES ($,AUG.)	24,971,000	+17.5	+10.8	+16.0
WHOLESALE SALES ($,OCT.)	N.A.	+12.5	+8.2	+13.2
PRODUCTION				
[41] ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	+4.9	-0.1	-0.2
CONSTRUCTION				
[42] NUMBER OF BUILDING PERMITS (OCT.)	2,826	+16.5	+4.9	N.A.
[42] VALUE OF BUILDING PERMITS ($,OCT.)	22,384,442	+30.6	+6.7	-8.0
VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	15,800,000	N.A.	N.A.	-25.3
NONRESIDENTIAL ($,SEPT.)	15,400,000	N.A.	N.A.	-15.3
FINANCE				
[43] BANK DEMAND DEPOSITS ($,OCT.)	678,892,837	+60.1	+10.2	+10.8
[43] BANK DEBITS ($,OCT.)	6,265,353,706	+32.8	+10.6	+71.2
RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	17,600,000	+141.1	+49.2	+9.8
EMPLOYMENT AND UNEMPLOYMENT [23]				
UNEMPLOYMENT RATE (SEPT.)	5.6	-11.1	-5.1	N.A.
REVENUE COLLECTIONS [15]				
SALES TAX COLLECTIONS ($,SEPT.)	6,309,211	+20.4	+5.6	+13.6

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LAKE CHARLES AREA

(INCLUDES CALCASIEU PARISH)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[44] TELEPHONES IN SERVICE (NUMBER,OCT.)	115,492	+5.0	+0.3	+5.5
[45] POSTAL RECEIPTS ($,SEP.6--OCT.3).	364,442	+7.2	+10.5	+8.2
[46] AIRLINE PASSENGER BOARDINGS (NUMBER,OCT.)	4,307	+1.2	+32.3	-14.0
[46] AIRLINE CARGO (TONS,OCT.)	7.3	-6.6	+8.6	-11.7
[47] OCEAN SHIPMENTS-PORT OF LAKE CHARLES (TONS,OCT.)	378,426	-31.1	-13.8	+4.2
TRADE				
WHOLESALE SALES ($,OCT.)	N.A.	+2.9	+8.2	+6.0
PRODUCTION				
ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	-2.8	-15.0	+4.0
CONSTRUCTION				
[48] NUMBER OF BUILDING PERMITS (OCT.)	224	-0.4	+0.9	N.A.
[48] VALUE OF BUILDING PERMITS ($,OCT.)	2,938,968	-4.4	-49.7	+52.7
VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	2,700,000	N.A.	N.A.	-36.1
NONRESIDENTIAL ($,SEPT.)	5,200,000	N.A.	N.A.	+107.5
FINANCE				
BANK DEMAND DEPOSITS ($,OCT.)	271,465,014	+11.3	-0.2	+7.1
BANK DEBITS ($,OCT.)	855,539,587	+15.3	+17.9	+7.6
RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	5,800,000	+132.0	+9.4	+39.0
EMPLOYMENT AND UNEMPLOYMENT [23]				
UNEMPLOYMENT RATE (SEPT.)	5.7	-8.1	-6.6	N.A.
REVENUE COLLECTIONS [15]				
SALES TAX COLLECTIONS ($,SEPT.)	1,951,677	+32.3	+2.7	+27.3

ALEXANDRIA AREA

(INCLUDES GRANT AND RAPIDES PARISHES)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[49] TELEPHONES IN SERVICE (NUMBER,OCT.)	82,897	+2.5	+0.1	+3.3
[50] POSTAL RECEIPTS ($,SEP.6--OCT.3).	389,115	+1.9	+34.2	+4.1
NEWSPAPER ADVERTISING LINAGE (OCT.)	N.A.	-7.7	+13.6	+0.9
[51] AIRLINE PASSENGER BOARDINGS (NUMBER,OCT.)	5,067	-12.6	+0.4	-14.6
[51] AIRLINE CARGO (TONS,OCT.)	46.4	+99.5	+33.4	+83.2
TRADE				
WHOLESALE SALES ($,OCT.)	N.A.	-7.0	-2.3	+4.8
PRODUCTION				
ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	+3.7	-22.0	+3.3
CONSTRUCTION				
[52] NUMBER OF BUILDING PERMITS (OCT.)	120	-7.7	+13.2	N.A.
[52] VALUE OF BUILDING PERMITS ($,OCT.)	4,748,421	+136.1	+24.7	-16.6
VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	3,900,000	N.A.	N.A.	-21.3
NONRESIDENTIAL ($,SEPT.)	2,400,000	N.A.	N.A.	-13.2
FINANCE				
[53] BANK DEMAND DEPOSITS ($,OCT.)	157,660,313	+8.6	+3.5	+4.8
[53] BANK DEBITS ($,OCT.)	606,693,729	+9.4	+3.9	+17.9
RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	2,000,000	+25.0	+122.2	-66.3
EMPLOYMENT AND UNEMPLOYMENT [23,54]				
UNEMPLOYMENT RATE (SEPT.)	8.0	+0.0	-5.9	N.A.
REVENUE COLLECTIONS [15]				
SALES TAX COLLECTIONS ($,SEPT.)	971,390	-2.8	-10.2	+5.8

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SHREVEPORT AREA

(INCLUDES BOSSIER, CADDO, AND WEBSTER PARISHES)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[55] TELEPHONES IN SERVICE (NUMBER,OCT.)	250,164	+3.7	+0.4	+4.2
[56] POSTAL RECEIPTS ($,SEP.6--OCT.3)	1,452,151	-2.0	+5.3	+6.0
NEWSPAPER ADVERTISING LINAGE (OCT.)	N.A.	-10.2	+5.9	-4.6
[57] AIRLINE PASSENGER BOARDINGS (NUMBER,OCT.)	35,799	-8.1	+9.4	-6.6
[57] AIRLINE CARGO (TONS,OCT.)	700.0	-6.7	+3.4	+6.2
TRADE				
[30] DEPARTMENT STORE SALES ($,AUG.)	13,506,000	+1.7	+11.9	+1.1
WHOLESALE SALES ($,OCT.)	N.A.	+2.2	-4.1	+7.9
PRODUCTION				
[58] ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	+9.7	-30.0	+6.7
CONSTRUCTION				
[59] NUMBER OF BUILDING PERMITS (OCT.)	687	-31.2	-10.0	N.A.
[59] VALUE OF BUILDING PERMITS ($,OCT.)	7,627,569	-58.5	-53.4	-16.4
VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	12,700,000	N.A.	N.A.	-16.6
NONRESIDENTIAL ($,SEPT.)	8,700,000	N.A.	N.A.	+1.1
FINANCE				
[60] BANK DEMAND DEPOSITS ($,OCT.)	529,972,208	+9.2	+1.2	+12.9
[60] BANK DEBITS ($,OCT.)	5,199,767,351	+27.3	+10.2	+36.8
RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	6,100,000	+281.3	+125.3	-44.1
EMPLOYMENT AND UNEMPLOYMENT [23]				
UNEMPLOYMENT RATE (SEPT.)	6.4	+12.3	+0.0	N.A.
REVENUE COLLECTIONS [15]				
SALES TAX COLLECTIONS ($,SEPT.)	4,099,056	+22.1	-4.2	+15.7

MONROE AREA

(INCLUDES MOREHOUSE AND OUACHITA PARISHES)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
[61] TELEPHONES IN SERVICE (NUMBER,OCT.)	118,557	+4.0	+0.3	+4.9
[61] POSTAL RECEIPTS ($,SEP.6--OCT.3)	589,686	+4.8	+10.0	+5.5
[62] AIRLINE PASSENGER BOARDINGS (NUMBER,OCT.)	9,239	-6.3	+11.1	-9.3
[62] AIRLINE CARGO (TONS,OCT.)	30.5	-45.8	+0.1	-47.4
TRADE				
WHOLESALE SALES ($,OCT.)	N.A.	+10.6	+1.7	+12.1
PRODUCTION				
ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	+11.6	-9.6	+7.0
CONSTRUCTION				
[63] NUMBER OF BUILDING PERMITS (OCT.)	91	+24.7	-1.1	N.A.
[63] VALUE OF BUILDING PERMITS ($,OCT.)	6,521,047	+160.6	+194.9	-9.0
[64] VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	4,100,000	N.A.	N.A.	-45.4
NONRESIDENTIAL ($,SEPT.)	600,000	N.A.	N.A.	-3.2
FINANCE				
[65] BANK DEMAND DEPOSITS ($,OCT.)	211,330,229	+7.8	+2.6	+3.2
[65] BANK DEBITS ($,OCT.)	1,625,957,765	-6.7	+2.4	+10.4
[64] RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	4,200,000	+10.5	+5.0	-30.3
EMPLOYMENT AND UNEMPLOYMENT [23,64]				
UNEMPLOYMENT RATE (SEPT.)	8.1	+15.7	+2.5	N.A.
REVENUE COLLECTIONS [15]				
SALES TAX COLLECTIONS ($,SEPT.)	1,957,165	+17.6	+12.4	+8.3

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LAFAYETTE AREA
(INCLUDES LAFAYETTE PARISH)

	VALUE OR QUANTITY	CHANGE COMPARED TO SAME MONTH LAST YEAR (PERCENT)	CHANGE COMPARED TO LAST MONTH (PERCENT)	JAN. 1 TO DATE THIS YEAR COMPARED TO SAME PERIOD LAST YEAR (PERCENT CHANGE)
GENERAL BUSINESS ACTIVITY				
66 TELEPHONES IN SERVICE (NUMBER,OCT.)	126,740	+9.0	+0.9	+8.5
POSTAL RECEIPTS ($,SEP.6--OCT.3)	514,075	-0.2	-2.3	+9.1
67 AIRLINE PASSENGER BOARDINGS (NUMBER,OCT.)	10,915	+2.1	+19.6	-8.7
67 AIRLINE CARGO (TONS,OCT.)	36.1	-12.0	-3.8	-2.6
TRADE				
WHOLESALE SALES ($,OCT.)	N.A.	+21.3	+10.2	+13.7
PRODUCTION				
68 ELECTRIC POWER CONSUMPTION (KWH,OCT.)	N.A.	+17.4	-23.4	+8.7
CONSTRUCTION				
VALUE OF CONSTRUCTION CONTRACTS				
RESIDENTIAL ($,SEPT.)	8,400,000	N.A.	N.A.	-19.7
NONRESIDENTIAL ($,SEPT.)	6,000,000	N.A.	N.A.	+53.0
FINANCE				
BANK DEMAND DEPOSITS ($,OCT.)	365,033,652	+23.3	-5.1	+16.6
BANK DEBITS ($,OCT.)	1,367,929,098	+7.1	+2.5	+15.2
RESIDENTIAL MORTGAGE LOANS ($,SEPT.)	4,300,000	+59.3	-10.4	-33.1
EMPLOYMENT AND UNEMPLOYMENT 23				
UNEMPLOYMENT RATE (SEPT.)	3.5	-27.1	+6.1	N.A.
REVENUE COLLECTIONS 15				
SALES TAX COLLECTIONS ($,SEPT.)	3,480,987	+35.3	+8.9	+26.6

DIVISION ECONOMIC REPORT—
(cont'd. from p. 7)

1.3 percent in September, continuing the upward trend that began in June. Rising interest rates, however, will restrict the activities in this industry and layoffs will follow. The modest gains in employment in the trade sector may be stalled if retail sales in Louisiana follow the slowdown observed at the national level. The 3.2 percent gain in the government sector was a seasonal increase associated with the fall opening of State and local educational facilities.

The seasonally-adjusted unemployment rate in Louisiana was 6.3 percent for the month of September compared with the national average of 7.6 percent. Among the State's metropolitan areas, Monroe had the highest unemployment rate at 8.1 percent, compared with the 7.9 percent in August. Although there were employment gains in manufacturing and services, employment fell in the construction and trade areas. Lafayette had the lowest unemployment rate at 3.5 percent. The unemployment rate in Alexandria was 8.0 in September, representing an improvement over the 8.5 percent level in August. The unemployment level in Baton Rouge was down to 5.6 percent compared with the 5.9 percent in August. Most of the gains in employment were in the area of government and construction. The seasonal gains in the government sector will not continue, and employment in the construction industry will suffer due to rising interest rates. Unemployment in Lake Charles was down to 5.7 percent compared to the 6.1 percent in August. Employment gains were associated with port activities and the service sector. Unemployment in Shreveport held steady at 6.4 percent, despite the substantial gain in employment in the government sector. There were reductions in employment in the key sectors of the economy such as manufacturing, transportation and public utilities, and construction. The unemployment rate in New Orleans was up to 5.7 percent compared to the 5.6 percent in August.

The forecasts for Louisiana and the State's metropolitan areas appear in Tables I and II. Real personal income will register a slight drop during the fourth quarter. This is partly due to the fact that inflation will be higher than in the third quarter. No real gain in personal income will be observed until the second quarter of 1981. Among the metropolitan areas, Baton Rouge and Lafayette will lead the State in terms of economic growth. Although New Orleans represents nearly a third of the economic activity in the State, its growth rate will be below the State average.

TABLE II
THE DIVISION ECONOMIC FORECAST:
LOUISIANA METROPOLITAN AREAS
(seasonally-adjusted annual rates of change)

	Real Personal Income Growth	
Metropolitan Area	1980	1981
Alexandria	1.2%	1.2%
Baton Rouge	2.0	2.0
Lafayette	3.3	2.8
Lake Charles	2.0	1.6
Monroe	1.7	1.5
New Orleans	1.1	1.3
Shreveport	1.4	1.4
Metropolitan Area Average	1.5	1.6

NATIONAL FLOOD INSURANCE PROGRAM—
(cont'd. from p. 6)

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[15] U.S. Water Resources Council, "A Unified National Program for Flood-Plain Management," U.S. Government Printing Office, (Washington, D.C.) (1979), pp. V13-V18.

[16] E. Liebman.

[17] U.S. Water Resources Council.

[18] General Accounting Office.

[19] *Ibid.*

[20] *Ibid.*

[21] *Ibid.*

[22] N. L. Johnson.

[23] Regis Allison, Personal Communication, Louisiana Department of Urban and Community Affairs, (Baton Rouge, La.).

[24] U.S. Water Resources Council.

[25] General Accounting Office.

[26] Federal Insurance Administration, "Flood Insurance Study—Town of Zachary, Louisiana," U.S. Department of Housing and Urban Development, (1977), 20 pp.

[27] General Accounting Office.

[28] *Ibid.*

[29] *Ibid.*

[30] Regis Allison.

TOURIST TRAFFIC

Visitors to Selected Tourist Attractions

Source: State Parks Commission & Other Tourist Attractions

SITE	October 1980	September 1980	October 1979	Percent Change Oct. 1980-Oct. 1979	Percent Change Oct. 1980-Sept. 1980
Audubon State Comm. Area	8,928	7,387	12,500	28.6	+ 20.9
Avery Island	2,927	2,575	3,165	- 7.5	+ 13.7
Baton Rouge					
Old State Capitol	4,168	3,002	3,367	+ 23.8	+ 38.8
Old Arsenal Museum	4,280	3,204	3,287	+ 30.2	+ 33.6
Camp Moore State Commemorative Area	252	372	199	+ 26.6	32.3
Chemin-A-Haut State Park	40,718	11,364	13,464	+202.4	+258.3
Chicot State Park	44,361	28,786	16,347	+171.4	+ 54.1
Cypremort Point State Park	3,528	9,334	2,170	+ 62.6	62.2
Fairview Riverside State Park	30,378	26,686	60,324	49.6	+ 13.8
Fontainebleau State Park	43,110	34,214	17,658	+144.1	+ 26.0
Fort Jesup State Comm. Area	1,598	4,306	10,172	84.3	62.9
Fort Pike State Comm. Area	7,500	10,112	22,902	67.3	25.8
Grand Isle State Park	17,192	21,352	18,184	5.5	19.5
Hodges Gardens	2,709	1,781	3,272	- 17.2	+ 52.1
Hot Wells Health Resort	1,693	2,156	2,010	15.8	21.5
Indian Creek Recreational Area	3,257	5,984	3,667	11.2	45.6
Kent House State Commemorative Area	922	614	827	+ 11.5	+ 50.2
Lake Bistineau State Park	6,300	11,540	16,015	60.7	45.4
Lake Bruin State Park	3,466	4,630	3,050	+ 13.6	25.1
Lake Claiborne State Park	3,020	4,328	4,454	32.2	30.2
Lake D'Arbonne State Park	2,354	2,300	2,083	+ 13.0	+ 2.3
Longfellow-Evangeline State Comm. Area	24,658	24,998	102,668	76.0	- 1.4
Marksville State Comm. Area	390	N.A.	2,000	80.5	
New Orleans					
The La. State Museum	16,105	10,761	14,919	+ 7.9	+ 49.7
Poverty Point State Commemorative Area	3,445	4,131	8,125	57.6	16.6
Rebel State Commemorative Area	5,608	1,717	1,519	+269.2	+226.7
St. Bernard State Park	1,758	2,128	2,126	17.3	- 17.4
Sam Houston Jones State Park	19,946	25,836	40,425	- 50.7	22.8
Shreveport					
The La. State Exhibit Museum	108,000	30,300	112,000	3.6	+256.4
The La. State Fairgrounds	687,710	69,800	694,850	1.0	+885.3
Winter Quarters State Commemorative Area	64	46	45	+ 42.2	+ 39.1

N.A. — Not Available

Visitors to Tourist Information Stations

Source: Louisiana Office of Tourism

STATION	October 1980	September 1980	October 1979	Percent Change Oct. 1980-Oct. 1979	Percent Change Oct. 1980-Sept. 1980
Bastrop Snyder Museum	911	541	649	+ 40.4	+ 68.4
Baton Rouge State Capitol	15,121	15,893	13,341	+ 13.3	4.9
Greenwood	10,546	8,545	9,239	+ 14.1	+ 23.4
Kentwood	9,580	7,158	7,612	+ 25.9	+ 33.8
New Orleans	12,945	8,317	11,025	+ 17.4	+ 55.6
St. Francisville	2,952	1,852	2,231	+ 32.3	+ 59.4
Slidell (I-59)	30,966	28,631	41,286	25.0	+ 8.2
Slidell (I-10)	92,406	86,094	75,598	+ 22.2	+ 7.3
Toledo Bend	1,380	1,291	1,273	+ 8.4	+ 6.9
Vidalia	1,177	1,161	1,008	+ 16.8	+ 1.4
Vinton	28,587	26,045	34,447	- 17.0	+ 9.8

LOCAL AREA SALES TAX COLLECTIONS*
(COLLECTIONS FOR INDICATED MONTH BASED ON SALES FOR PRECEDING MONTH)
SOURCE - LOCAL TAXING AUTHORITIES
(DOLLARS)

ADMINISTRATIVE UNITS	OCTOBER 1980	PERCENT CHANGE OCT. 1980- OCT. 1979	PERCENT CHANGE OCT. 1980- SEP. 1980
ABBEVILLE	82,583	+39.9	+7.8
ABITA SPRINGS	1,532	-3.5	-6.8
ALBANY	2,073	-13.2	-7.9
ALEXANDRIA	350,989	+7.6	+7.3
ALLEN PAR. S.B.	78,435	+4.3	+0.2
AMITE CITY	29,145	+3.9	-6.3
ARCADIA	16,454	+6.7	+9.1
ARNAUDVILLE	7,564	+10.2	+9.1
ASCENSION PAR. POL. JURY	256,074	+18.7	+13.5
ASCENSION PAR. S.B.	719,614	+123.0	+12.0
ASSUMPTION PAR. S.B.	67,560	+41.2	+4.8
ASSUMPTION PAR.	67,560	+41.2	+4.8
AVOYELLES PAR. S.B.	188,660	-3.7	+5.3
BAKER	78,387	-23.3	+12.4
BASILE	4,193	+3.7	-6.2
BASTROP	74,960	+1.2	-10.9
BEAUREGARD PAR. S.B.	134,584	-36.8	+8.6
BERNICE	5,993	N.A.	+16.6
BOGALUSA	185,268	+34.4	+6.1
BOSSIER CITY	261,199	+5.9	+5.2
BOSSIER PAR. S.B.	518,340	+20.6	+4.7
BREAUX BRIDGE	32,367	+18.5	+16.8
BROUSSARD	23,767	+40.0	-4.9
CADDO PAR. S.B.	1,421,366	+6.2	-3.7
CALCASIEU PAR. S.B.	1,323,615	+9.1	-0.7
CALDWELL PARISH S.B.	31,523	+20.5	+10.1
CANKTON	643	+17.6	+2.9
CARENCRO	21,094	+9.4	-13.0
CATAHOULA PAR. S.B.	38,622	-14.4	-24.5
CLAIBORNE PAR. S.B.	77,136	+33.0	+7.7
COLFAX	5,036	N.A.	-2.5
CONCORDIA PAR. POL. JURY	58,522	+60.3	+36.1
CONCORDIA PAR. S.B.	36,874	+23.6	+7.4
COTTON VALLEY	3,390	+78.9	-17.0
COTTONPORT	5,568	+10.8	-15.0
COUSHATTA	17,201	+4.7	-14.4
COVINGTON	61,377	+13.6	+11.2
CULLEN	2,799	-13.6	-16.3
DELCAMBRE	7,616	-16.0	+4.0
DENHAM SPRINGS	66,904	+18.8	+2.9
DEQUINCY	16,786	-11.6	-11.6
DERIDDER	66,749	+7.3	+11.6
DESOTO PAR. S.B.	176,141	+96.1	+21.7
DONALDSONVILLE	36,004	-3.4	-1.9
DUSON	6,542	+15.0	+13.1
E. FELICIANA PAR. S.B.	116,401	-9.2	+36.6
E.B.R. CITY-PARISH	4,756,235	+18.3	+1.4
E.B.R. PAR. S.B.	2,491,053	+19.3	+1.2
ERATH	8,992	+24.1	+23.8
EUNICE	150,755	+16.3	+9.1
EVANGELINE PAR. S.B.	113,726	+16.1	+15.4
FARMERVILLE	19,345	+23.9	+1.3
FERRIDAY	28,204	+38.0	+8.9
FOLSOM	3,011	+10.9	-19.3
FRANKLIN PAR. S.B.	131,113	+74.7	+19.3
FRANKLINTON	29,635	+5.7	-11.3
GOLDEN MEADOW	9,803	+6.8	-10.5
GONZALES	73,722	+8.5	+3.4
GRAMERCY	16,348	+30.5	+23.2
GRAND COTEAU	1,626	-4.6	+53.4
GRANT PARISH SCHOOL BOARD	31,447	-19.9	-29.9
HAMMOND	139,829	+19.4	+1.5
HAUGHTON	1,100	N.A.	+73.8
HAYNESVILLE	13,142	-3.8	-6.2
HENDERSON	6,709	+38.3	+107.1
IBERIA PAR. S.B.	596,212	+20.2	-11.4
IBERVILLE PAR. S.B.	302,850	-5.8	-14.3
IBERVILLE PARISH	302,608	-5.9	-14.3
INDEPENDENCE	5,968	+58.7	-20.8
JACKSON PAR. S.B.	71,754	+7.9	+18.3
JEFF. DAVIS PAR. S.B.	203,346	+24.5	+20.0
JEFFERSON PARISH	2,512,053	+4.9	-10.5
JENNINGS	75,130	+11.3	-3.0
JONESBORO	47,949	+123.1	-1.5
KENTWOOD	14,424	+1.4	+0.4
KROTZ SPRINGS	23,678	+476.7	+1,752.7
LA SALLE PARISH SCHOOL BOARD	75,952	N.A.	+17.5
LAFAYETTE PAR. POL. JURY	336,665	+35.0	+4.1
LAFAYETTE PAR. S.B.	1,371,121	+26.8	+2.9
LAFAYETTE	958,665	+24.5	+2.7
LAKE ARTHUR	9,551	N.A.	+2.3
LAKE CHARLES	517,357	+2.9	-3.6
LAKE PROVIDENCE	22,502	+41.7	+5.8
LEESVILLE	52,215	+4.1	-6.1
LINCOLN PAR. POL. JURY	84,059	+18.8	+0.8
LINCOLN PAR. S.B.	168,119	+18.8	+0.8
LIVINGSTON PAR. S.B.	383,454	+74.5	+7.2
LIVINGSTON	4,306	+23.6	+12.5
LOCKPORT	9,772	-21.2	+4.2
LUTCHER	10,035	+7.9	-5.2
MADISON PAR. S.B.	85,000	+13.3	+30.8
MANDEVILLE	23,716	+14.7	-0.1
MANGHAM	2,360	+35.5	-10.4
MANSFIELD	41,605	N.A.	+22.8
MARKSVILLE	28,273	-5.0	-11.9
MAURICE	2,093	-35.6	-14.6
MELVILLE	4,275	+20.0	+3.2
MER ROUGE	5,822	+13.8	+22.0
MINDEN	82,688	+13.1	+20.2
MONROE (CITY) S.B.	119,592	+4.2	+8.9
MONROE	509,590	-2.8	-0.5
MOORINGSPORT	2,529	+24.6	+17.7
MOREHOUSE PAR. S.B.	107,092	+13.4	-7.0
MORSE	1,255	+44.9	-35.9
NAPOLEONVILLE	5,085	+2.6	+9.2
NATCHITOCHES PAR. S.B.	160,431	+16.8	+1.9
NATCHITOCHES	91,416	+15.2	+3.7
NEW ROADS	19,504	+7.0	-8.1
NEWLLANO	3,689	+66.3	-14.1
OAK GROVE	17,407	-14.6	-4.1
OAKDALE	29,434	+9.4	-2.3
OBERLIN	5,580	-2.3	-6.1
OIL CITY	8,233	+93.6	-2.9
OPELOUSAS	207,609	+18.1	+6.7
OUACHITA PAR. POL. JURY	246,150	+11.4	+23.0
OUACHITA PAR. S.B.	243,910	+3.7	+8.4
PEARL RIVER	6,991	+15.0	+56.9
PINE PRAIRIE	2,576	+14.4	+31.8
PINEVILLE	54,655	-2.5	-1.9
PLAIN DEALING	5,622	+12.5	-0.9
PLAQUEMINES PAR. COMM. COUN.	144,366	+11.8	+9.9
PLAQUEMINES PAR. S.B.	172,183	+11.8	+9.9
PLAUCHEVILLE	1,051	+4.1	+29.8
POINTE COUPEE PAR. S.B.	170,157	+49.8	+5.9
POINTE COUPEE PARISH	170,157	+49.8	+5.9
POLLOCK	312	N.A.	-16.1
PONCHATOULA	30,873	+1.7	+5.3
PORT ALLEN	23,627	+50.5	-24.0
RAPIDES PARISH	704,759	+15.0	+8.4
RAYNE	65,961	+3.0	+2.5
RAYVILLE	40,561	+20.3	+8.9
RED RIVER PAR. POL. JURY	36,625	N.A.	+30.2
RED RIVER PAR. S. B.	34,625	+48.2	+24.1
RICHLAND PAR. S. B.	137,354	+2.7	+13.5
RINGGOLD	7,674	+6.0	+95.6
ROSELAND	2,783	+41.8	+36.6
ROSEPINE	1,334	+17.1	-6.9
RUSTON	60,068	+12.2	+2.3
SABINE PAR. S.B.	79,467	-12.3	-13.6
SAREPTA	946	-16.7	+12.9
SCOTT	17,955	+8.6	-5.3
SHREVEPORT	1,208,110	+10.1	-1.2
SLIDELL	164,269	+8.4	+4.2
SPRINGFIELD	945	-14.8	-30.7
SPRINGHILL	37,514	+10.7	+9.7
ST. BERNARD PAR. POL. JURY	478,713	+28.5	+7.8
ST. BERNARD PAR. S. B.	478,713	+28.5	+7.8
ST. CHARLES PAR. POL. JURY	275,746	+44.5	+4.0
ST. CHARLES PAR. S.B.	924,991	-0.5	+5.8
ST. FRANCISVILLE	15,936	+28.7	-2.7
ST. JAMES PAR. S.B.	183,870	+1.4	+20.7
ST. JOHN PAR. S. B.	394,459	+28.9	-12.4
ST. LANDRY PAR. S.B.	419,673	+14.3	+12.1
ST. MARTIN PAR. S.B.	173,498	+21.7	+3.3
ST. MARTINVILLE	35,364	+30.3	+16.6
ST. TAMMANY PAR. S.B.	984,889	+7.9	+25.2
SULPHUR	221,236	+9.0	+7.5
SUNSET	6,808	+7.6	+11.8
TANGIPAHOA (VILLAGE OF)	1,173	+50.4	+12.8
TANGIPAHOA PAR. S.B.	310,053	+9.9	+0.0
TENSAS PAR. POL. JURY	29,310	-11.4	-3.1
TENSAS PAR. S.B.	34,367	+0.5	+15.1
TERREBONNE PAR. S.B.	606,276	+16.8	+0.1
TERREBONNE PARISH	1,010,460	+16.8	+0.1
THIBODAUX	107,784	+5.3	+6.8
UNION PAR. S. B.	71,954	+61.8	+13.6
VERMILION PAR. POL. JURY	355,479	+20.3	+10.3
VERMILION PAR. S.B.	355,428	+20.3	+10.2
VERNON PAR. S.B.	118,958	+15.0	+5.6
VIDALIA	27,493	+9.7	+4.2
VILLE PLATTE	42,325	+8.3	+0.2
VINTON	19,867	+11.0	-10.3
VIVIAN	20,818	-9.6	+4.8
W. B. R. PARISH	137,571	+22.8	-4.6
W. CARROLL PAR. S. B.	45,655	-14.5	+1.8
W. FELICIANA PAR. S.B.	271,872	+117.3	+10.4
W.B.R. PAR. S.B.	137,531	+26.0	-2.9
WASHINGTON (TOWN OF)	2,720	-4.4	-45.6
WASHINGTON PAR. S.B.	82,263	+25.2	+15.8
WELSH	16,007	+11.2	-3.8
WEST MONROE	167,505	+3.3	+9.4
WESTLAKE	52,079	+144.1	+8.0
WINN PAR. S.B.	77,098	-5.8	-4.1
WINNSBORO	46,060	+5.6	+3.8
YOUNGSVILLE	4,143	+49.0	+18.5
ZACHARY	60,624	-30.0	-5.2
TOTAL REPORTED THIS MONTH	$37,517,488	N.A.	N.A.
**SUM OF COMPARABLE COLLECTIONS	37,341,752	+15.7	+2.2

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*Tax rates are 1%, except for Ascension Parish School Board—2%, Avoyelles Parish School Board—1½%, Baker—2%, Bienville Parish School Board—2% (1%—School Dist. #1, 1%—parishwide); Bogalusa—2%, Bossier Parish School Board—1½%, Bunkie—1½%, Catahoula Parish School Board—1½%, Crowley—1½%, East Baton Rouge City-Parish—2%, East Feliciana Parish School Board—2%, Eunice—2%, Franklin Parish School Board—1½%, Iberia Parish School Board—1¾%, Independence—1½%; Jeanerette—1¼%; Jonesboro—2%; Lafourche Parish—½%; Lincoln Parish Police Jury—½%, Livingston Parish School Board—2%, Madison Parish School Board—1½%, Madison Parish Police Jury—½%, Monroe—1½%, New Iberia—1¼%, New Orleans—2%; Opelousas—2%, Parks—2%, Pine Prairie—2%, Rayne—2%; Rayville—1½%; Richland Parish School Board—1½%; Ruston—½%, St. Bernard Parish School Board—1½%, St. Bernard Parish Police Jury—1½%; St. Charles Parish Police Jury—⅝%; St. Mary Parish—1¾%, St. Mary Parish School Board—.95%; St. Tammany Parish School Board—2%; Sulphur—2%, Terrebonne Parish—1¼% (¼% is a special dedication), Terrebonne Parish School Board—¾%; Vinton—2%; West Monroe—1½%; West Feliciana Parish School Board—2%, Westlake—2%; Zachary—2%, ½% is shared by Monroe (City) School Board & Ouachita Parish School Board. Included are use tax & hotel-motel taxes wherever applicable.

**Figures shown for "comparable collections" are made up *only* of administrative units reporting October 1980, September 1980, and October 1979.

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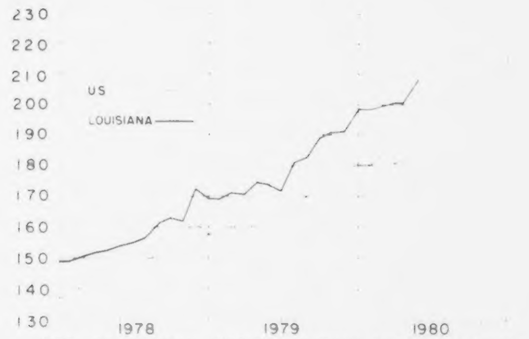
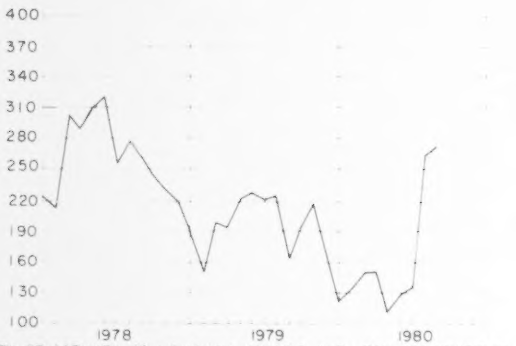


INDEX OF PERSONAL INCOME - LOUISIANA AND UNITED STATES
1974 = 100



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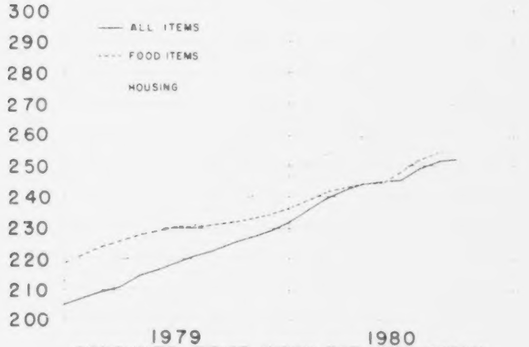
NEW LOANS
1974 = 100



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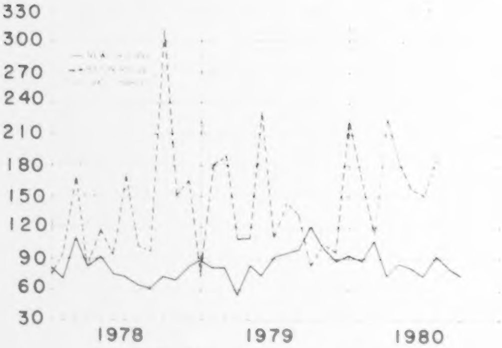

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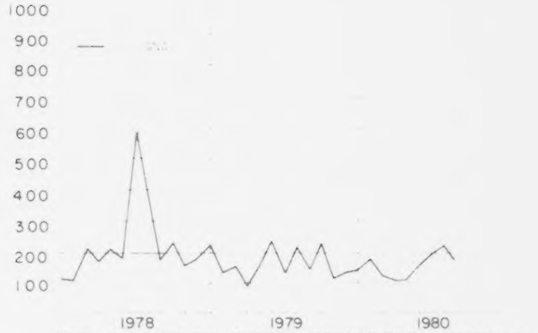

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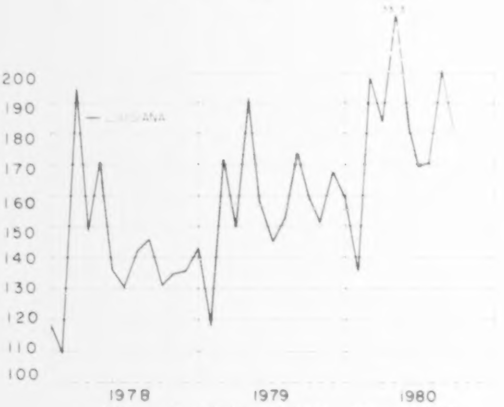

INDEX OF STATE REVENUE COLLECTIONS
1974 = 100

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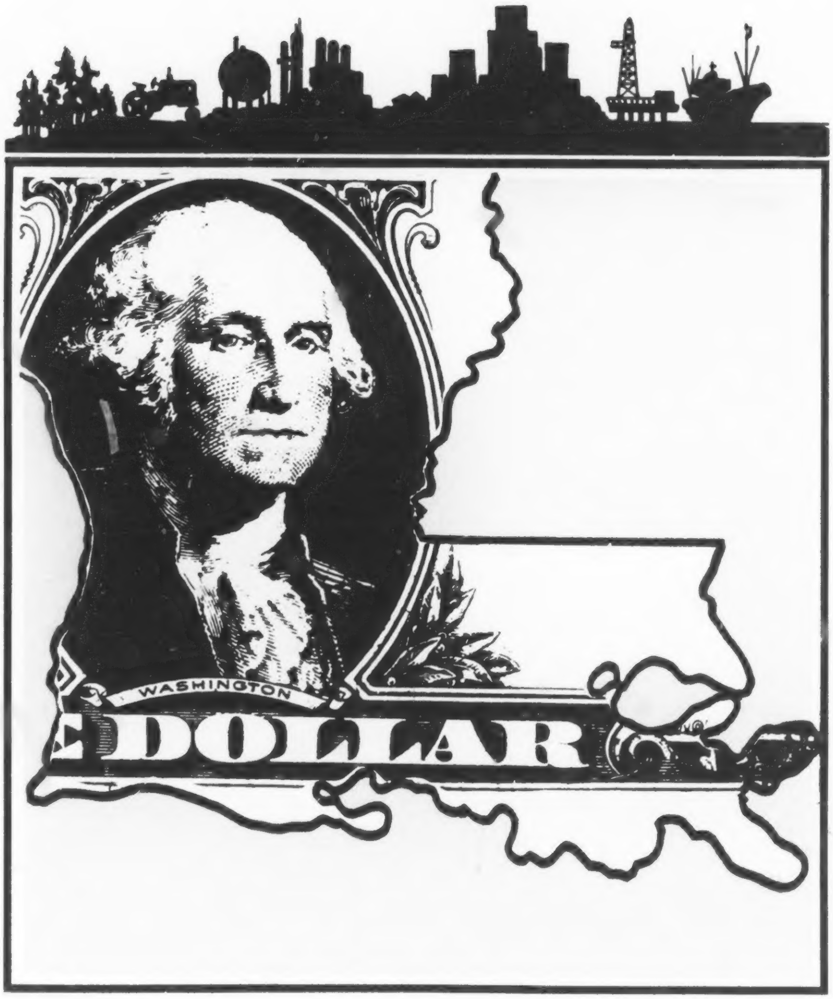
WASHINGTON
DOLLAR

LETTER FROM THE EDITORIAL BOARD

A New Beginning

The Division of Research in Louisiana State University's College of Business Administration has published the monthly *Louisiana Business Review (LBR)* on a continuous basis since 1937. Although the *LBR* has been a useful publication for many of its readers, we have recognized for some time that it could be improved.

Because of limited resources, we were unable to develop the quality of business publication which we wanted to represent one of the major universities in the country. Consequently, last year the *LBR* editorial board decided to conduct its first fund raising campaign in the Baton Rouge metropolitan area. Due to the generosity of some concerned members of the local business community, sufficient funds were raised to enable the new *LBR* to be launched. We would like to express our very sincere appreciation to those contributors who are listed on the back inside cover of this issue.

These additional and other temporary funds have enabled us to make a number of changes and improvements. The monthly data series which were previously published in the *Louisiana Business Review* are now being published in a new monthly called *Louisiana Economic Indicators (LEI).* The new quarterly *LBR* is dedicated to providing worthwhile and timely information on local, state and national economic developments of interest to the Louisiana business community and government officials in the form of high quality and readable articles and special feature columns. During the next year, each issue of the *LBR* will focus on one of the following themes: the Louisiana economy (spring 1981), international trade and investment in Louisiana (summer 1981), banking in Louisiana (fall 1981) and labor issues in Louisiana (winter 1982). The new *LBR* special feature columns will include:

- FORUM—which will provide the opportunity for authors of articles in previous *LBR* issues to update or modify their analyses, and readers to respond with supplemental or contrasting material with respect to articles appearing in the *LBR*.
- NATIONAL NEWS OF NOTE—which will report national developments such as tax or trade legislation and regulation procedures which will affect Louisiana businesses.
- LOUISIANA BULLETIN—which will contain information on state activities such as tax legislation, construction of new plants, special events that will affect Louisiana businesses.
- COLLEGE HIGHLIGHTS—which will provide information on faculty and administrative activities within LSU's College of Business Administration, such as publications, lectures and research projects of interest to the Louisiana business community.
- LOUISIANA ECONOMIC TRENDS AND PROJECTIONS—which will report state, metropolitan and major industrial sector economic developments during the past two quarters and which will contain projections for the current and the next five quarters, based on a state econometric model being developed by the Division.
- BOOK CORNER—which will announce and/or review new publications of interest to the Louisiana business community.

Other improvements for both the new quarterly *Louisiana Business Review* and monthly *Louisiana Economic Indicators* include the following:

- The employment of a professional economist on a part-time basis as editor of the quarterly *Louisiana Business Review.*
- The offer of honoria payments for articles which are accepted for publication in the *LBR.*
- The reporting system for the data series in *LEI* is being computerized, which will enable us to process the data more quickly and accurately.

We are enthusiastic about the new quarterly *Louisiana Business Review* and hope you will find it useful and interesting to read. We ask your patience as we gain "on-the-job" experience and determine specific reader interests. We welcome your comments, suggestions and assistance and we would like to encourage all our readers to consider submitting an article or writing for the "Forum" column for publication in future issues of the new quarterly *Louisiana Business Review.*

—The Editorial Board

Deadline Dates for receipt of one page manuscript abstracts for upcoming issues:

Issue	**Abstract Due**
Banking (Fall 1981)	April 30, 1981
Labor (Winter 1982)	May 15, 1981

SPRING 1981

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Data for the past decade show Louisiana as a state that is profoundly influenced by the oil and gas industry. Parishes that host the offshore oil industry have lept into prominent positions in terms of per capita income in the state. Those parishes between Baton Rouge and New Orleans have attracted industries which rely heavily on natural gas and vast supplies of water, and consequently their income and population have risen rapidly. Parishes located in rural areas with a heavy agricultural base have lost economic ground relatively to other parishes, and Orleans Parish, the most populous in the state, has been experiencing some special economic difficulties of its own. The state, as a whole, appears to be on a strong growth track.

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Between 1969 and 1978, Louisiana per capita income grew faster than the U.S. and southern averages. This pattern of convergence is projected to continue into the next decade as Louisiana per capita income reaches 91 percent of the national average and 98 percent of the southern average. Rapid earnings growth is forecast for Louisiana's manufacturing and services sectors. Slowdowns are projected for the mining and construction sectors. A continuation of the one percent annual rate of population increase which has occurred historically is forecast to continue in Louisiana over the next decade. This will bring state population to the 4.5 million mark by 1990. The state economy will continue to be characterized by an industrial make-up which provides stability over the course of U.S. business cycles.

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Editor:
Ana Maria Turner Lomperis

Art Consultant:
Chet Boze

Editorial Assistant:
Susan C. Mitchen

Editorial Board:
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Loren C. Scott
Sheldon Engler

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The Editorial Board welcomes the submission of manuscripts, as well as critical comments on any article appearing in this quarterly, from members of the business community, academia and others.

All communications should be addressed to the editor, LOUISIANA BUSINESS REVIEW, Division of Research, College of Business Administration, Louisiana State University, Baton Rouge, LA 70803, (504) 388-6645.

JAMES A. RICHARDSON

FORUM

LOUISIANA STATE REVENUE OUTLOOK, 1981 AND BEYOND

Public discussion as to whether or not, when, and how the federal government should eliminate oil price controls is now history. Existing federal price controls in the oil industry were scheduled to be phased out gradually by September 30, 1981. However, just ten days after taking office, President Reagan announced his decision to completely remove all federal oil price controls as of January 30, 1981. As the nation's second largest producer of oil and with its present tax structure, Louisiana is being significantly affected by this decision. In particular, the state can expect to collect an additional $75 million in state revenues from February-June 1981 as a direct result of immediate decontrol.

In the May 1980 issue of this *Review*,[1] the author sketched out a scenario for state revenue collections throughout the 1980's. Revenues were projected to grow substantially in fiscal years 1980-81 and 1981-82 due to the gradual elimination of federal price controls on domestic crude oil. Thereafter, revenue growth in the 1980's was projected to be much more modest. These basic trends are still the most realistic outlook for the state's financial future. This update focuses on (1) the implications of the immediate decontrol of domestic oil prices to Louisiana, (2) an examination of the more modest growth in state revenues for most of the 1980's, and (3) a very brief listing of alternative strategies for the long-term use of the state's financial resources.

Immediate Decontrol of Oil Prices

President Reagan's decision to eliminate oil price controls as of the end of January will not have any permanent impact on the prices of gasoline and other oil related products above and beyond what would have eventually occurred under the gradual decontrol plan. Nor will it have an extra impact on the level of oil exploration and development. Higher gasoline prices, and possibly some additional production, will now occur prior to, rather than after, September.

The President's decision will, however, immediately affect two sources of Louisiana's oil revenues. First, the state's severance tax on oil is based on the value of each barrel of oil extracted within the jurisdictional boundaries of Louisiana. A comparison between the estimated severance tax revenues for fiscal year 1980-81 that Louisiana would have received under the gradual elimination of price controls program and that the state will receive as a result of immediate decontrol of oil prices is shown in Table 1. The state can expect an additional $60 to $70 million in severance tax collections in fiscal year 1980-81 due to the immediate decontrol of oil prices. These are monies the state would not have received under the gradual elimination of oil price controls.

Secondly, state royalties are derived from oil produced by private firms on state owned land. These should rise by almost $1.5 million per month due to immediate decontrol, giving the state approximately $7.5 million extra in royalty payments during the remainder of fiscal year 1980-81. In total then, Louisiana should collect an extra $68.5 to $77.5 million in oil revenues from February-June 1981.[2]

Severance tax collections and royalty payments should show a substantial percentage increase in fiscal year 1981-82 over fiscal year 1980-81 since total decontrol will be around in effect for twelve months, not just five. Total severance tax collections in fiscal year 1981-82 should be close to, if not over, $1.0 billion compared to $800 million in fiscal year 1980-81. The substantial growth rates in oil revenues will not last forever. In fact, by fiscal year 1982-83, the state will experience much smaller growth in oil revenues, and hence, in total state revenues.

TABLE 1

Estimated Louisiana Severance Tax Collections, Fiscal Year 1980-81

	Gradual Decontrol (Controls ending September 30, 1981)	Immediate Decontrol (Controls ending January 30, 1981)
Average Value Per Barrel[1] (February-June, 1981)	$27.20	$34.00-$35.00
Production (Millions of barrels)	75	75
Average Tax Rate[2]	12%	12%
Estimated Tax Collections (February-June, 1981) in millions of dollars)	$245.0	$306.0-$315.0

[1] The average value per barrel reported is a composite of oil prices received by Louisiana oil producers, ranging from as low as $10 per barrel to the world price.

[2] The actual rate is 12.5 percent, but there is oil coming from stripper or incapable wells that is taxed at lower rates so that the effective tax rate averages about 12 percent.

Modest Growth in Fiscal Years 1982-83 Through 1987-88

The financial capability of the state has grown dramatically in the early 1980's, and the level of this capability will not recede through the remainder of the 1980's. However, the rate of growth of Louisiana's financial capacity will slow down. This is not an unusual result after several years of substantial revenue growth. Inflation and real growth in the Louisiana economy will put pressure on the state to spend more public dollars each and every year just to maintain the real value of per capita public services available.[3] Hence, the important issue is how fast or slow state revenues grow after the budgetary windfalls of the early 1980's:

Figure 1 compares the actual and projected growth of states revenues, growth in Louisiana personal income, and rate of change of the implicit GNP price deflator during 1965-1988. The growth in the price deflator is an indication of inflation, while the growth in personal income[4] is an indication of (1) rising prices, (2) a growing labor force and (3) rising productivity. If the state is satisfied with its present level of public services and if the state wants to maintain such a level of real public services on a per capita basis, the tax structure must generate a growth in revenue approximately equal to the growth in personal income.[5,6]

During the 1970's the only times state revenues grew faster than personal income were after a major tax increase was implemented. In 1970 there was an increase in Louisiana's income and sales tax; in 1973, an increase in the state's severance tax; and in 1977, an increase in the state's corporate income tax. At the start of the 1980's state revenues are growing in excess of personal income because of federal decontrol—something that cannot be repeated. The obvious deduction from Figure 1 is that the state's revenue structure has not tended to produce a growth in state revenues equal to the growth in personal income.[7] Periodic tax increases have been required to catch the public sector up with the overall growth in personal income.

The projections for 1981-1988 are based on (1) the historical relationship between increases in personal income and increases in state revenues, excluding oil and gas revenues and (2) specific assumptions about the price of oil and the production of oil and gas. Historically, personal income growth of 10 percent has translated into non-oil and gas revenues growth of 9 percent. Specific assumptions concerning oil and gas include (1) a decline rate of 6 percent for both oil and gas production in Louisiana and (2) an increase in the price of oil in step with the overall inflation rate.

More substantial growth in state revenues may occur if oil production suddenly rises due to the elimination of price controls and/or if oil prices increase by a substantial margin. Louisiana, as a state, will gain each time the world oil price rises. The state cannot make long-term plans on the basis of a potential discovery of oil or natural gas that will more than offset the declining productions of existing reservoirs or on the basis of world circumstances forcing the price of crude oil up by, say, 50 percent, such as happened in 1979. Louisiana

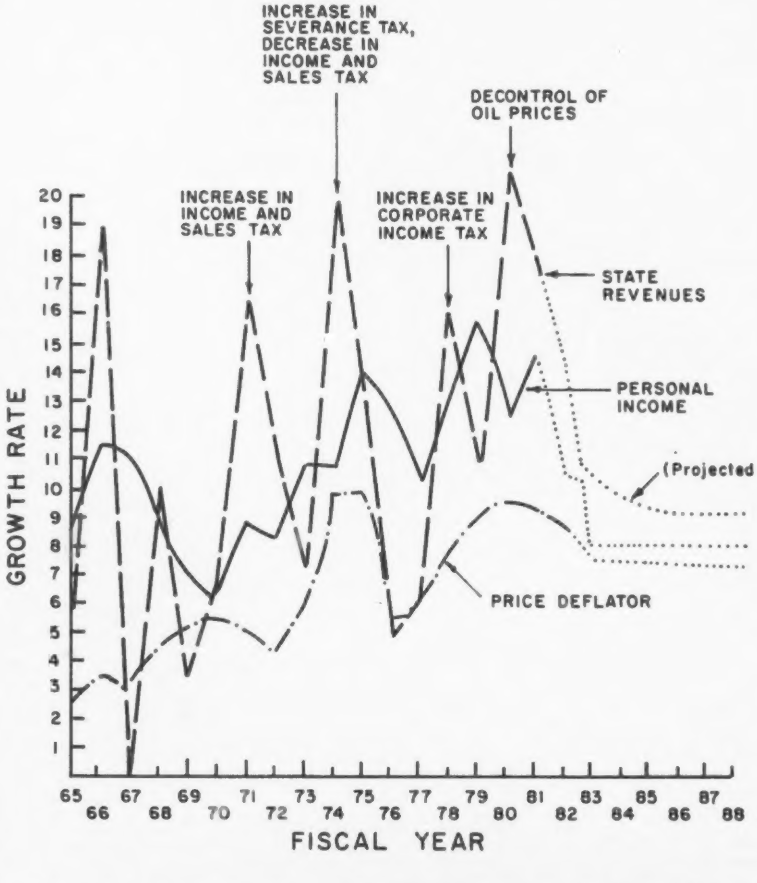


FIGURE 1. ACTUAL AND PROJECTED GROWTH RATE OF REVENUE, STATE PERSONEL INCOME, AND IMPLICIT PRICE DEFLATOR, 1965 – 1988

cannot count on any more nonlegislated windfalls in the 1980's.

Alternative Strategies for the 1980's

The alternative strategies for the 1980's must be examined from two perspectives: (1) what should Louisiana do with its available revenue surpluses in the early 1980's and (2) what plans should the state make for the mid-1980's given these revenue forecasts? The decisions made concerning the use of the available surpluses now will necessarily affect the budgetary choices the state will confront after the surpluses are gone. In any case, the state has to answer the question as to what is the appropriate size of its public sector.

The exceptional revenue growth of the early 1980's can be used to augment public services, fund capital projects, build up a trust fund for later use, or provide a tax cut for the citizens of the state. All of these proposals are financially feasible in the short-term. Indeed, all of these proposals already have been implemented to some degree. The operating budget of most state agencies has grown in the last several years. Capital outlays of $185 million in fiscal year 1979-80 and $335 million in fiscal year 1980-81 have been included in the operating budget, not the capital outlay budget. A trust fund was established in 1979, though the state legislature has yet to appropriate any funds to it. Finally, a permanent reduction in the personal income tax was proposed by the Governor and passed by the Legislature in 1980. These proposals and policies all have, however, long-term complications.

Improving the level of real per capita public services will be constrained in the long-run by the slowdown in the growth of revenues, unless there are periodic tax increases similar to those of the 1970's. Capital projects require ongoing operating personnel. For example, many state agencies will seek large staffs, supplies, and so forth in the mid-1980's to be able to utilize projects now being built. These demands will be constrained by the slowdown in the growth of state revenues. The trust fund potentially can spread out the substantial revenue growth of the early 1980's over the entire decade. State revenue will grow more rapidly in the late 1980's with the trust fund than without it because of the interest being earned on the endowment. The complicated issues concerning the trust fund are (1) when should the fund be used, (2) should it be treated as a permanent endowment with only the interest income to be available for use, and (3) exactly how much of the current surplus should be contributed to the trust fund? Permanent tax cuts will aggravate the slowdown in revenues available in the mid-1980's, thereby forcing a tax increase or a reassessment of existing public services.

The long-run problem is how to deal with a tax structure that for the next decade will not yield revenue growth in line with income growth, without legislated tax increases, unexpected increases in oil and gas production or large increases in oil prices. One possibility is to convert all unit taxes (tobacco, beer, alcoholic beverages, gasoline and special fuels, and natural gas) to value taxes. For example, presently, as the price of gasoline rises, the state's revenue collections do not rise. The current tax on gasoline is 8 cents per gallon. Alternatively, the gasoline tax rate could be changed to 8 percent of the price per gallon. Tobacco, beer, alcoholic beverages, gasoline and special fuels, and natural gas taxes, which together represent the segment of revenue structure that is not sensitive to rising prices,[8] accounted for about 15 percent of Louisiana State revenues in fiscal year 1980.

Conclusion

Decontrol of oil prices has meant a bonanza for Louisiana in the early 1980's. The spectacular revenue growth of the early 1980's will not continue forever. Revenue growth in the mid-1980's will be less than the growth in personal income, meaning that the budgetary choices of the mid-1980's facing Louisiana will not be as pleasant as those of the early 1980's. Careful, effective planning in the early 1980's is essential in order to avoid a "crisis" in the mid-1980's.

[1] James A. Richardson, "Louisiana's Financial Opportunities: Money and Minerals," *Louisiana Business Review* (May, 1980): 2-5, 14.

[2] The docontrol of natural gas prices will not have as spectacular an impact on state revenues as oil price decontrol. State royalties and bonus payments will rise as well as personal and corporate income taxes due to decontrol. The severance tax on natural gas is a volume tax. Therefore, severance tax collection will rise if the higher natural gas prices encourage extra exploration and development, but severance collections will not rise just because prices rise.

[3] The real value of per capita public services available represents the current dollar value of those services, adjusted for inflation.

[4] Personal income is measured in current dollars. Hence, any increase in income that merely reflects inflation is included in personal income.

[5] Productivity gains indicate that each individual is becoming more affluent so we need to know if individuals want to spend the same fraction of their recently gained affluence on public goods as they have done out of their previous income.

[6] This general rule should be treated as a bench mark, not as a rule that should necessarily be constitutionalized.

[7] More rigorous proof of this conclusion should consider the elasticity of state revenue with respect to personal income. See: James A. Richardson, "Louisiana Revenue outlook, "*Louisiana Business Review* (March 1976): 2-5, 8; *An Evaluation of Louisiana Public Schoolteacher Salaries*, a special study by Gulf South Research Institute for the State, Baton Rouge, 1979; and Lloyd Shell, "Revenue Growth and a State's Tax Structure: The case of Louisiana," (PhD. dissertation, Louisiana State University, 1977).

[8] One could also argue for indexing the income tax so it would not yield a larger percentage increase in taxes than the rate of income growth.

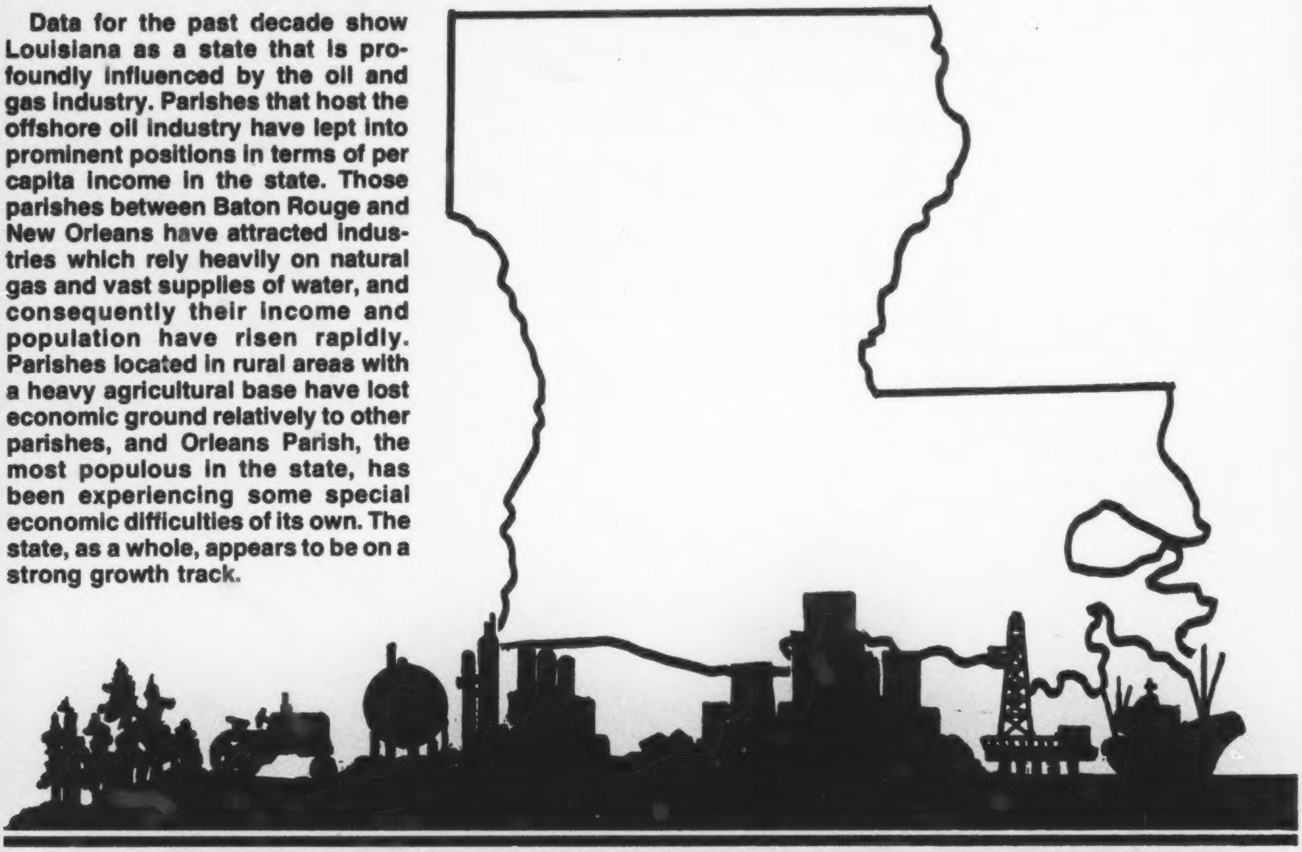
JAMES A. RICHARDSON is an associate professor of economics at Louisiana State University, Baton Rouge. His research interests include national economic policy, as well as state and local finance issues.

Loren C. Scott

The Louisiana Economy in the 1970's:

A Decade of Growth and Internal Shifts

Data for the past decade show Louisiana as a state that is profoundly influenced by the oil and gas industry. Parishes that host the offshore oil industry have lept into prominent positions in terms of per capita income in the state. Those parishes between Baton Rouge and New Orleans have attracted industries which rely heavily on natural gas and vast supplies of water, and consequently their income and population have risen rapidly. Parishes located in rural areas with a heavy agricultural base have lost economic ground relatively to other parishes, and Orleans Parish, the most populous in the state, has been experiencing some special economic difficulties of its own. The state, as a whole, appears to be on a strong growth track.



It has not been that uncommon, in the past few years, to hear someone refer to Louisiana as a "banana republic". Such a phrase congers up visions of a stagnant, backward, one-product economy.

However, as one examines the economic history of Louisiana during the 1970's, he is struck by the picture drawn of a vibrant, shifting, multidimensional economy. The influence of the energy crisis and the resultant growth in the importance of the oil and gas industry are strikingly revealed. Increased farm size and mechanization can be clearly seen in some of the population data. The strength lent to our state economy by the dual combination of natural gas and the Mississippi River are manifested in the development in the 1970's of an area of the state that some have nicknamed the "Little Ruhr". Other interesting changes are also apparent.[1]

The data used to paint this decade-long picture of the state's economy come from two sources: (1) estimates of per capita income for each parish in 1978 made by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce, and (2) the preliminary census count on population in each parish in 1980. Since Bureau of Economic Analysis income estimates are only available through 1978, all income comparisons made in this article are for the period 1969-78.[2]

Section two of this article concentrates on an examination of state and parish level per capita incomes between 1969 and 1978. The third section deals with population shifts that have occurred between 1970 and 1980. The final section contains a summary and conclusions.

Per Capita Income Shifts

Table 1 contains data on per capita income levels for the U.S., Louisiana, and each of our sixty-four parishes. Column two contains per capita income growth rates between 1969 and 1978, and column three expresses each parish's per capita income as a percentage of the average U.S. per capita income. Finally, in columns four and five, the parishes are ranked according to their per capita income

TABLE 1

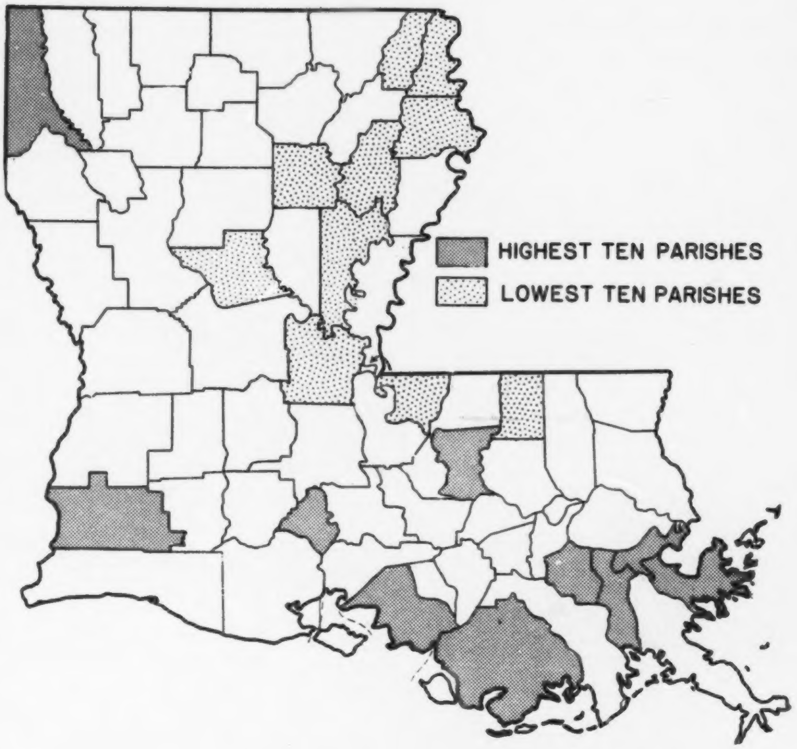
Per Capita Income and Population Data for the United States, Louisiana and Its Parishes

Area	Per Capita Income 1978 (Dollars)	Per Capita Income Percent Change, 1969-1978	Per Capita Income Percent of U.S. Average 1978	Per Capita Income Parish Rank 1969	Per Capita Income Parish Rank 1978	Population 1980 (Thousands)	Population Percent Change, 1970-1980	Population Parish Rank 1970	Population Parish Rank 1980
UNITED STATES	$ 7840	114%	—	—	—	226,504.8	11.1	—	—
LOUISIANA	6738	137	86%	—	—	4,194.3	15.1	—	—
Acadia	5483	163	70	40	32	56.6	8.6	18	19
Allen	4508	116	58	39	53	21.4	2.8	42	45
Ascension	6235	168	80	28	19	51.5	38.9	24	21
Assumption	5819	185	74	41	29	22.1	12.3	43	43
Avoyelles	4082	123	52	52	62	41.7	10.4	23	25
Beauregard	5430	144	69	31	34	29.6	29.5	37	35
Bienville	4573	131	58	44	52	16.4	2.2	52	54
Bossier	6390	143	82	16	16	80.9	22.8	13	13
Caddo	7379	130	94	6	7	252.0	9.5	4	4
Calcasieu	7271	145	93	8	8	168.7	16.0	5	5
Caldwell	4163	154	53	61	57	10.7	14.7	62	60
Cameron	6384	143	81	17	17	9.3	12.9	64	63
Catahoula	4202	158	54	62	56	12.2	3.9	58	58
Claiborne	5353	134	68	29	35	17.1	0.6	48	51
Concordia	5772	145	74	26	30	22.9	1.3	39	41
DeSoto	5133	139	65	35	42	24.6	8.0	38	38
East Baton Rouge	8020	132	102	3	2	368.5	29.2	3	3
East Carroll	4136	129	53	56	59	11.8	–8.4	57	59
East Feliciana	5033	175	64	54	44	18.8	6.6	47	48
Evangeline	4304	139	55	57	54	33.4	4.5	30	31
Franklin	3830	128	49	60	64	24.1	0.7	35	39
Grant	4290	133	55	53	55	16.7	22.5	54	53
Iberia	6889	184	88	22	12	63.8	11.1	16	16
Iberville	6108	153	78	24	22	32.0	4.0	31	33
Jackson	5457	131	70	25	33	17.4	9.1	51	49
Jefferson	7850	116	100	1	3	450.6	33.2	2	2
Jefferson Davis	5219	135	67	32	40	32.1	8.6	33	32
Lafayette	8492	205	108	9	1	148.3	32.9	8	6
Lafourche	6680	166	85	20	14	82.4	19.6	11	12
LaSalle	4979	167	64	49	45	16.8	26.0	55	52
Lincoln	5836	148	74	27	27	39.7	17.5	27	27
Livingston	5954	148	76	23	26	58.1	59.5	25	18
Madison	3870	110	49	50	63	14.7	–2.5	53	55
Morehouse	5261	146	67	37	39	33.8	4.0	29	30
Natchitoches	4714	135	60	43	49	39.2	11.4	26	28
Orleans	7744	120	99	2	4	556.9	–6.2	1	1
Ouachita	6313	130	81	11	18	137.5	19.2	7	7
Plaquemines	6788	160	87	18	13	26.0	3.2	34	36
Pointe Coupee	5189	170	66	47	41	24.1	9.5	40	45
Rapides	5988	125	76	14	24	134.3	13.8	6	8
Red River	5325	148	68	36	37	10.3	12.1	62	61
Richland	5329	171	68	45	36	22.1	1.5	41	42
Sabine	4656	156	59	55	51	25.2	35.4	45	37
St. Bernard	7217	111	92	4	9	63.7	24.5	19	17
St. Charles	7167	163	91	12	10	37.4	26.7	33	29
St. Helena	4104	172	52	64	60	9.9	–0.4	60	62
St. James	6955	171	89	19	11	21.5	8.8	44	44
St. John the Baptist	6126	180	78	33	20	31.9	34.1	36	34
St. Landry	4702	148	60	48	50	84.2	4.7	9	11
St. Martin	4936	191	63	59	46	40.1	23.5	28	26
St. Mary	7466	181	95	13	6	64.5	6.2	15	15
St. Tammany	6440	135	82	10	15	109.9	72.8	14	9
Tangipahoa	5079	141	65	38	43	79.0	19.9	12	14
Tensas	4856	165	62	51	47	8.5	–12.8	61	64
Terrebonne	7504	183	96	15	5	94.7	24.6	10	10
Union	5286	160	67	42	38	20.9	13.2	46	46
Vermilion	6118	172	78	30	21	48.4	12.4	20	22
Vernon	5831	78	74	5	28	53.1	1.4	17	20
Washington	5508	126	70	21	31	44.4	5.8	21	23
Webster	6028	101	77	7	23	43.4	8.7	22	24
West Baton Rouge	5965	174	76	34	25	18.9	12.2	48	47
West Carroll	4096	141	52	58	61	12.8	–1.9	56	57
West Feliciana	4153	165	53	63	58	13.6	26.0	59	56
Winn	4728	141	60	46	48	17.2	5.3	50	50

Source: Computer Printouts, U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economics Information System, April 1980. (Per Capita Income information)

State Data Center Newsletter, Department of Experimental Statistics, Louisiana State University, January 1981. (Population information)

MAP I



HIGHEST AND LOWEST TEN PARISHES RANKED BY PER CAPITA INCOME: 1978

levels in each of these two years.

Louisiana Vis-à-Vis the Nation: In 1978, the average (undeflated) per capita income for the U.S. was $7,840 while the comparable figure for Louisiana was more than a thousand dollars lower at $6,738. However, the 1969-78 period was a relatively good one for Louisiana as the data in column two reveal. Louisiana's per capita income grew noticeably faster than did that of the U.S. (137 percent versus 114 percent). Consequently, while the state ranked forty-fourth in per capita income among the fifty states in 1969, Louisiana had taken a healthy jump to the thirty-seventh position by 1978[3].

Per Capita Income Parish Level: The position of thirty-seventh in the country is, of course, still below the national median, and a careful glance down column three of Table 1 demonstrates the impact of that rather low ranking. Only three parishes in the state, Lafayette, East Baton Rouge and Jefferson, have per capita incomes that match or exceed the national average. *Over one-half of the parishes in Louisiana have per capita incomes that are less than 75 percent of the national average.* Furthermore, the per capita incomes of two parishes, Franklin and Madison, are less than one-half of the national average.

Table 2 ranks the top ten parishes in the state by per capita income in both 1969 and 1978. The shifts that have taken place in the top ten parishes indicate the increasingly paramount role taken by the oil industry during the 1970's. Lafayette Parish, considered the headquarters city of the offshore oil industry, is now the richest parish in the state by the per capita income standard. Terrebonne and St. Mary parishes, which are also closely tied to offshore petroleum exploration, have also jumped into the top ten list.

TABLE 2

Highest Ten Parishes, Ranked By Per Capita Income, 1969 and 1978

Rank	1969	1978
1	Jefferson	Lafayette
2	Orleans	E. Baton Rouge
3	E. Baton Rouge	Jefferson
4	St. Bernard	Orleans
5	Vernon	Terrebonne
6	Caddo	St. Mary
7	Webster	Caddo
8	Calcasieu	Calcasieu
9	Lafayette	St. Bernard
10	St. Tammany	St. Charles

Source: Table 1 and Bureau of Economic Analysis printouts, April 1980.

Two parishes which have remained in the top ten and have pretty much held their relative positions over the decade are East Baton Rouge and Calcasieu (Lake Charles) Parishes. (East Baton Rouge ranked first in the state in 1976). Both of these parishes have economic bases with strong connections to the petroleum refining industry. As a matter of fact, the Exxon refinery in Baton Rouge is the second largest in the country.[4]

The improvement in ranking of these petroleum-oriented parishes has come at the expense of the parishes in the New Orleans and Shreveport areas. Jefferson, Orleans and St. Bernard parishes—which are in the New Orleans Standard Metropolitan Statistical Area (SMSA)—ranked one, two and four in 1969. Per capita income levels in these three parishes continued to grow at rates near the national average between 1969 and 1978. However, the per capita income levels of Louisiana's other parishes grew so much faster than the national average that the per capita income positions of Jefferson, Orleans and St. Bernard parishes fell to third, fourth and ninth, respectively.

As Map 1 illustrates, nine of the top ten parishes ranked by per capita income are located in south Louisiana. For sometime now the parishes in the northern area of the state have been losing ground to those in south Louisiana. A good example of this north-to-south shift is the Shreveport parish of Caddo. Caddo enjoyed the highest per capita income in the state in 1940.[5] Since that time its ranking has consistently fallen to its present position of seventh. Webster Parish, which is also in the Shreveport area, ranked seventh in the state in 1969 and is now no longer in the top ten. This deterioration in the Shreveport area ranking may soon be arrested, however, since General Motors is due to open a major truck assembly facility in Caddo Parish in the near future. This event will create a large number of new high-wage jobs in the area. For example, the average weekly earnings in the Motor Vehicles and Car Bodies Industry in the U.S. in 1978 was $388.40. In contrast, the average weekly earnings for all private, nonagricultural workers was a much lower $203.70.[6]

Occasionally there are external events which tend to move an economy off its normal growth path. Federal military spending has tended to have such an influence on the Louisiana economy. For example, in 1969 while the Vietnam War was in progress, Vernon Parish, the location of Fort Polk, did exceedingly well with a per capita income ranking of fifth in the state. Furthermore, this small west-central parish had the highest per capita income in Louisiana in 1968, when the war was near its peak.[7]

TABLE 3

Lowest Ten Parishes in Per Capita Income, 1969 and 1978

Rank	1969	1978
64	St. Helena	Franklin
63	W. Feliciana	Madison
62	Catahoula	Avoyelles
61	Caldwell	W. Carroll
60	Franklin	St. Helena
59	St. Martin	E. Carroll
58	W. Carroll	W. Feliciana
57	Evangeline	Caldwell
56	E. Carroll	Catahoula
55	Sabine	Grant

Source: Computer printouts, Bureau of Economic Analysis, U.S. Department of Commerce, April 1980.

TABLE 4

Percent of Employment in Various Sectors, 1978

Rank 1978	Per Capita Income Parish	Percent of Employment in: Farming	State and Local Gov.
64	Franklin	8.3	22.6
63	Madison	13.5	19.1
62	Avoyelles	5.5	21.0
61	W. Carroll	9.5	24.5
60	St. Helena	8.3	27.8
59	E. Carroll	17.7	13.9
58	W. Feliciana	5.0	28.8
57	Caldwell	3.8	24.1
56	Catahoula	8.9	32.5
55	Grant	3.1	22.0
n.a.	State average	1.3	14.6

Source: Computer printouts, Bureau of Economic Analysis, U.S. Department of Commerce, April 1980.

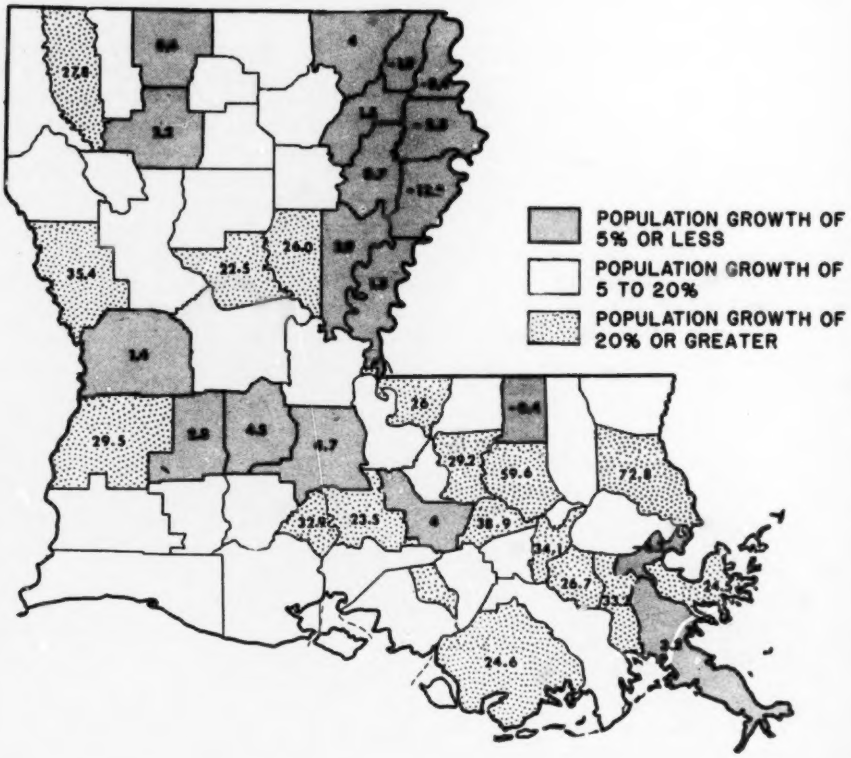
n.a.—not applicable

However, after the conclusion of the Vietnam involvement, Vernon Parish had experienced the largest drop in per capita income of any parish in the state, falling to a rank of twenty-eighth in 1978. Similarly, Webster Parish, the location of a major munitions plant, fell from its seventh place ranking in 1969 to twenty-third in 1978. Rapides Parish, the location of England Air Force Base, dropped from the fourteenth position to twenty-fourth during the same time period.

Finally, Table 3 lists the ten lowest parishes in terms of per capita income in 1969 and 1978. As it turns out, membership in this group has changed very little over time. Seven parishes appear in both the 1969 and 1978 rankings. From their position in Map 1 one can conclude that all of these parishes are in rural areas and most are located in the Mississippi River delta region of the state. According to these data, Franklin Parish with a per capita income of only $3,830, 49 percent of the national average, is the poorest in the state.

A cursory examination of the economic bases of these parishes gives some clue as to the reason for their poor ranking. The data in Table 4 indicate the percentage of each parish's employment that exists in the farm and the state and local government sectors. Only about 1.3 percent of all wage and salary employment in Louisiana is in the farm sector. All of the parishes in question have noticeably higher proportions of their employment in that area. Not only are wages and salaries in the farm sector typically lower than average, but also between 1969 and 1978 farm income in the state grew

MAP 2


27.8
4
35.4
22.5
26.0
29.5
26
29.2
59.6
72.8
23.5
4
38.9
34.1
26.7
24.6
▨ POPULATION GROWTH OF 5% OR LESS
☐ POPULATION GROWTH OF 5 TO 20%
▒ POPULATION GROWTH OF 20% OR GREATER

POPULATION GROWTH IN LOUISIANA PARISHES : 1970 - 1980

only 20 percent while total income grew at a much faster 153 percent rate. Similarly all of these parishes, except East Carroll, have a much higher concentration of employment in state and local government than is the average for the state. Over the 1969-78 period, income in this sector grew by 140 percent, 13 percentage points lower than total state income.

Population Changes[8]

Louisiana Vis-à-Vis the Nation: As one moves from a consideration of per capita income activity to population changes it would be expected that the order of magnitude of the shifts would be considerably smaller, especially when examining only a ten year period. This is because changes in the population of a state depend primarily upon birth rates, death rates and migration trends. Generally, these factors change slowly over time.

As the data in the second half of Table 1 demonstrate, this has basically been true for Louisiana. Preliminary data from the 1980 census count reveal that over the 1970-80 period the Louisiana economy grew by 15.1 percent to a level of almost 4.2 million persons. This growth rate was significantly larger than the 11.1 percent growth rate for the nation as a whole. No doubt Louisiana benefited from the Snowbelt to Sunbelt population shift which occurred in the nation during the past decade. This led to the state's relatively larger population growth rate.

Population Changes at the Parish Level: An examination of the last two columns in Table 1 lends credence to the notion that relative population shifts occur rather slowly. Notice that there was very little change in the population ranking of each parish between 1970 and 1980. Only five parishes underwent ranking changes of four positions or more. Most involved rank changes of only two or three levels. (In contrast, the average shift in per capita income ranking among the parishes was six positions, and the rankings of thirteen parishes changed by ten or more positions.) Since the 1940's, Orleans Parish, with over one-half million residents, has been the most populous parish in Louisiana. Tensas Parish, with only 8,500 citizens, is the smallest parish in the state in terms of population size.

Despite the absence of marked changes in rankings, most of Louisiana's parishes experienced a noticeable change in *absolute* population size between 1970-80. Six parishes actually lost population over the decade and thirteen parishes experienced very slow population growth, that is, their growth rates were under five percent. As can be seen in Map 2, most of these "slow growth" parishes tend to be located in rural areas where there is a greater than average economic dependence on agriculture. Note, for example, that nine of these parishes are located in the Mississippi River delta region. A major movement has been taking place in farming in these parishes to consolidate smaller farms to take advantage of economies of scale in production. Throughout the state there has been a very significant movement towards larger size farms and, as a result, toward a smaller number of farms. This has led to a rural-to-urban population shift and the resulting pattern of population movements shown in Map 2.

The population movements in two of the slow growth parishes cannot be explained by the rural-to-urban shift hypothesis. The very weak 1.4 percent population growth in Vernon Parish is traceable directly to the wind-down of activities at Fort Polk with the end of the Vietnam War.

Orleans Parish, on the other hand, is suffering from a serious case of urban flight. Its population, which has been declining since the mid-1960s fell by 6.2 percent in the past decade. To a large extent, this outward population movement can be explained by a desire on the part of those who work in the parish to reside in outlying areas and avoid all the problems inherent in living in a very large inner city such as New Orleans. Clearly, the large growth in St. Tammany, St. Bernard, and Jefferson

Parishes can be traced to this suburban shift. In particular, St. Tammany's population grew an astonishing 72.8 percent, the largest growth rate of any parish in the state in the 1970's. One indication that most of this growth came from commuters to Orleans Parish is the fact that *fifty-eight percent of the labor and proprietor's income earned by residents of St. Tammany Parish was earned outside of the parish!* Comparable figures of thirty-one and forty-three percent, respectively, for Jefferson and St. Bernard Parishes lend credence to the "suburban shift" hypothesis.[9]

It should be noted, however, that not all of the population loss of Orleans Parish can be attributed to a simple suburban shift. Jobs in the basic industries have also been declining in that parish at an alarming rate. The *Preliminary Report of the 1977 Census of Manufacturers* reports that Orleans Parish lost 6,800 jobs in the manufacturing sector between 1972-1977.[10] Hopefully, the implementation of the ten-year capital improvements program by the New Orleans Port Commission and the 1984 World Exposition will give that parish a much needed economic shot in the arm in the 1980's and reverse its present trend.

Four other high population growth parishes shown in Map 2 experienced growth primarily because of suburban shifts from large cities nearby: Livingston (near Baton Rouge), Beauregard (near Lake Charles), Bossier (near Shreveport) and Grant (near Alexandria). The percent of labor and proprietor's income earned outside of each of these parishes was 73, 28, 23 and 43 percent, respectively.

Three parishes, Lafayette, Terrebonne and St. Martin, have encountered rapid population growth recently because of the boom that has occurred in the offshore oil and gas industry since 1970. Closely related to this factor has been the very rapid growth in those parishes that lie along the Mississippi River between Baton Rouge and New Orleans. The rapid population growth parishes of Ascension, St. John the Baptist and St. Charles, enjoy the benefit of two important natural resources, natural gas and a large volume of water. The combination of these two resources has attracted a number of major plants along the River between these two cities. As a matter of fact, 35 percent of the total value of ten-year tax exemptions awarded in the state between 1970-79 was awarded solely in the six parishes that lie along the River between Baton Rouge and New Orleans.[11] Petrochemical, petroleum refining, and food processing plants are so numerous that the area has been nicknamed the "Little Ruhr".[12]

Summary and Conclusions

The Bureau of Economic Analysis income data, and the 1980 Census data reveal a picture of a state which has been on a strong growth track since 1969. The prodigious growth in the oil and gas industry has continued the shift in the pattern of growth rates from the northern to the southern half of the state. The discovery of the Tuscaloosa Trend gas field extending through the south-central area of Louisiana and the mammouth investments in offshore oil exploration will probably cause this shift to continue throughout the 1980's. As the state's economy continues to reap the spill-over benefits of oil and gas deregulation, it would not be surprising to see Louisiana rise from its present per capita income rank of thirty-seventh in the U.S. to perhaps a position in the low thirties by 1990.

Finally, this paper has highlighted at least two major problem areas in the state's economy which need to be addressed. One is the lapse in economic activity taking place in Orleans Parish. Adoption of the Port Commission's ten year capital improvements program and the hosting of the 1984 World Exposition should go a long ways toward remedying conditions in that area. Secondly, the entire central area of the state has suffered from a lack-luster economic performance in recent years. The construction of the north-south highway is absolutely essential to the economic development of this region, as anyone who has travelled the area by car can attest. With the natural financial and human resources that Louisiana will have in the 1980's, these problems seem hardly insurmountable.

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[1] In an earlier paper the author used Bureau of Economic Analysis data to analyze shifts in the Louisiana economy over the longer 1940-1976 period. See: Loren C. Scott, "The Changing Structure of the Louisiana Economy: 1940-1976," *Louisiana Business Review* (September 1978): 2-6.

[2] These data are available for public use and inspection in the Division of Research, Room 3139, Center for Engineering and Business Administration on the LSU campus.

[3] Preliminary figures have recently been released by the Bureau of Economic Analysis showing that in 1979 Louisiana's per capita income had increased to $7,477—an improvement which has led to a new ranking of thirty-fifth in the nation. See: Louisiana Department of Commerce, Office of Commerce and Industry, *Louisiana Business* (June, 1980): 1.

[4] For a review of the impact of this important industry on the state's economy, see: Loren C. Scott "The Petroleum Industry in Louisiana," *Louisiana Business Review* (March 1977): 2-4.

[5] See: Scott (1978).

[6] U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings, United States, 1909-78*, Bulletin 1313-11 (1979): 3, 355.

[7] Loren C. Scott, Thomas R. Beard, and Jan W. Duggar, "Economic Profiles, Personal Income, and Earnings Data for Louisiana State Planning Districts, SMSA's and Non-SMSA Parishes in Louisiana," Occasional Paper #2, Division of Research, College of Business Administration, Louisiana State University, February 1971, p. 77.

[8] Data in this section are based on the preliminary 1980 population count data published in the *State Data Center Newsletter*, Department of Experimental Statistics, Louisiana State University, Baton Rouge, Louisiana, (January 1981).

[9] Bureau of Economic Analysis, Personal Income computer printout, April 1980.

[10] U.S. Department of Commerce, Bureau of the Census, *1977 Census of Manufacturers, Preliminary Report* (June 1979): 3.

[11] Louisiana Department of Commerce, Office of Commerce and Industry, computer printouts provided to the author.

[12] This refers to the enormous industrial complex that lies in the Ruhr Valley in Germany.

LOREN C. SCOTT is the Associate Director of the Division of Research and a professor of economics in the College of Business Administration at Louisiana State University, Baton Rouge. His research interests include the areas of energy, labor economics and the Louisiana economy.

1984 Louisiana World Exposition Preliminary Plans Set

The January, 1981 issue of the Louisiana Department of Commerce's *Louisiana Business* reports that preliminary plans are underway for the 1984 Louisiana World Exposition to be held in New Orleans from May through October of that year. Ed Stagg, executive director of the Council for a Better Louisiana, reports that every region of the state will be called upon to have a local attraction in connection with the 1984 fair. Petr L. Spurvey, executive vice-president and general manager of the 1984 Louisiana World Exposition, Inc., the organization that will direct the event, said the fair is to be held on 80 to 90 acres of property along the Mississippi River in New Orleans. At this time, 25 nations are expected to be represented in, and approximately 12 million visitors, to attend, the exhibition.

In addition, Governor David C. Treen has announced that Secretary of Commerce Donald J. Bernard will serve simultaneously on the executive committee and board of directors of the 1984 Louisiana World Exposition, Inc. The final go ahead for the event is expected from the Bureau of International Expositions (BIE) in Paris on April 18, 1981 in a vote from representatives of 36 nations.

SCORE Helps Louisiana Small Business

Are you thinking about starting your own business? Or would you like some tips on how to improve the business you have recently founded?

Free consultation services are available for new businesses in Louisiana in the form of pre-business workshops co-sponsored by the U.S. Small Business Administration (SBA) and the Service Corps of Retired Executives (SCORE). According to the January, 1981 issue of *Louisiana Business,* the seven to eight hour seminars are being offered in an effort to keep the failure rate for new businesses as low as possible. Because the failure rate is quite high in this area, SCORE sessions aim to give participants a more realistic perspective concerning their self employment plans. One of the most important aspects of the workshops is the delineation of some of the major reasons as to why new businesses fail, including: inadequate accounting systems, poor location, lack of marketing skills, lack of management skills, lack of capital budget, incompetence, lack of experience, neglect and fraud. Other seminar topics include: record keeping, sources of capital, business organization, time management, marketing, regulations, taxes and insurance.

In addition to the written material, advice and other valuable aid available through this program, participation in a SCORE pre-business workshop is a pre-requisite in applying for a SBA loan.

For more information about the services that SCORE provides or upcoming workshops planned for your area, contact: SCORE, c/o Baton Rouge Chamber of Commerce, P.O. Box 1868, Baton Rouge, LA 70721, (504) 387-1400.

LABI President Warns of Louisiana Energy Crisis

In an open letter to Louisiana workers publicized throughout the state and local media in March, Ed Steimel, President of Louisiana Business and Industry (LABI), cautions that the jobs of *all* workers in Louisiana are at stake. This is true, warns Steimel, because these jobs, whatever they are, are more dependent on a growing supply of energy than in any other state in the country. In fact, Louisiana consumes more energy per capita than any other state and ten times more than the average state.

The letter, which summarizes the major findings of a three-year study by LABI, aims to educate the public as to the necessity for a sufficient *growing* supply of energy at an *affordable* price. Steimel's concern is prompted by the substantial decrease in the production and reserve levels of Louisiana's oil and natural gas industries over the last decade. Because of the limited nature of these nonrenewable natural resources, he urges the Louisiana worker to actively generate support for exploring the development of alternative sources of energy—principally coal, lignite and nuclear power—in order to be able to meet our future energy needs.

Further details are available in Mr. Steimel's full letter and the LABI study which can be obtained from Louisiana Business and Industry, P.O. Box 3988, Baton Rouge, LA 70821, (504) 387-5372.

Louisiana Bulletin News Items

The Editorial Board of the *Louisiana Business Review* would like to invite your office or organization to submit any state or local newsworthy items that would be of interest to the greater Louisiana business community for consideration for publication in this column. Please send your information to: Editor, Louisiana Business Review, Division of Research CEBA 3139, College of Business Administration, Louisiana State University, Baton Rouge, LA 70803.

Sheldon Engler

Louisiana Population, Income and Earnings: Projections for the 1980's

Between 1969 and 1978, Louisiana per capita income grew faster than the U.S. and southern averages. This pattern of convergence is projected to continue into the next decade as Louisiana per capita income reaches 91 percent of the national average and 98 percent of the southern average. Rapid earnings growth is forecast for Louisiana's manufacturing and services sectors. Slowdowns are projected for the mining and construction sectors. A continuation of the one percent annual rate of population increase which has occurred historically is forecast to continue in Louisiana over the next decade. This will bring state population to the 4.5 million mark by 1990. The state economy will continue to be characterized by an industrial make-up which provides stability over the course of U.S. business cycles.

WASHINGTON
DOLLA

This article presents long term economic projections for the state of Louisiana. These projections have been prepared by the Regional Economic Analysis Division of the Bureau of Economic Analysis, U.S. Department of Commerce and recently appeared in the *Survey of Current Business.*[1] The forecast centers upon expected trends in population, personal income, per capita income and earnings by industry. Growth in Louisiana is compared to projections for the rest of the U.S. and for neighboring southern states.[2] The forecast extends to the year 1990.

Population

The Bureau of Economic Analysis (BEA) projects that Louisiana's population will expand at a 1.1 percent annual rate between 1978 and 1990. This compares to a 1.0 percent annual rate of increase which occurred between 1969 and 1978. By the year 1990, according to these projections, 4.5 million people will reside in the state.

Louisiana population projections are compared to projections for the U.S. and southern states in Table 1. Between 1978 and 1990, U.S. population is expected to grow at a 0.9 percent annual rate. This represents the same rate of growth which occurred in the 1970's. If this forecast is correct, the U.S. population will reach 243 million by 1990.

The population of Louisiana will grow more rapidly than that of the U.S., largely as a result of migration. The state's mild climate and favorable tax base should attract both individuals and business from other regions of the nation. Most southern migration, however, will continue to be concentrated in Florida, Arizona and Texas. On the average, the population of southern states will grow at an annual rate of 1.4 percent over the next decade. Thus, Louisiana's population is likely to grow somewhat more slowly than the southern average.

Personal Income

Real personal income (measured in 1972 dollars) in Louisiana is projected to grow at a 4.4 percent annual rate between 1978 and 1990. This represents a slowdown from the 4.9 percent rate that occurred during the 1969-1978 period. A comparison of Louisiana, U.S. and southern state personal income growth appears in Table 2.

U.S. personal income is projected to grow at a 3.7 percent annual rate over the next decade. This exceeds the 3.5 percent annual rate of growth which occurred in the 1970's. In the South, total personal income should grow by 4.5 percent per year between 1978 and 1990. This compares to a more rapid 5.1 percent rate of growth experienced in the last decade. Thus, Louisiana personal income should grow more rapidly than U.S. income and at a rate only slightly below the projected southern rate of growth.

The slowdown in personal income growth expected to occur in Louisiana and the rest of the South largely reflects the deceleration in the growth of personal interest income, rental income of persons, dividends and transfer payments. While some categories of earnings should experience slowdowns, other categories should grow more rapidly causing overall earnings growth to remain virtually constant.

Per Capita Personal Income

Per capita personal income, equal to total personal income divided by population size, can be loosely interpreted as a measure of the overall economic well-being of the state's population. During the 1969-1978 period Louisiana real per capita income (measured in 1972 dollars) grew from $3,208 to $4,492, at a rate more rapidly than that of the U.S. As table 3 reports, by 1978, Louisiana per capita income was 86 percent of the U.S. average. The gap between Louisiana per capita income and the rest of the U.S. is projected to continue to close over the next two decades. State per capita income is projected to grow at a 3.3 percent annual rate, while U.S. per capita income should increase at a 2.8 percent rate. Consequently, Louisiana per capita income should grow to 91 percent of the U.S. average by 1990.

Louisiana per capita income is projected to grow also in relation to the southern state average. In 1978, state per capita income equaled 96 percent of the southern average. By 1990, Louisiana should have reached 98 percent of the southern average. If this trend continues into the 1990's, Louisiana will surpass the average of all southern states.

A significant factor in Louisiana's relatively rapid per capita income growth has been the expansion of its capital-intensive manufacturing industry. Firms in the oil and natural gas sector, for instance, are highly productive compared to service-oriented businesses. This allows the state to experience large increases in output and earnings relative to the amount of labor utilized. High-capital intensity, however, also limits employment opportunities in these industries. This explains why Louisiana is projected to experience personal income growth which is high relative to the expected growth of population.

Earnings by Industry in the U.S.

Table 4 presents projections of earnings classified by major industrial sector for the U.S. and Louisiana. Overall,

TABLE 1

Population in the U.S., South, and Louisiana, 1978-1990

	1978	1990	Average Annual Growth Rate 1978-1990
	(Thousands of persons)		
U.S.	218,051	242,979	0.9
South	68,794	80,888	1.4
Louisiana	3,966	4,539	1.1

Source: Compiled from data appearing in U.S. Department of Commerce, Bureau of Economic Analysis, "Regional and State Projections of Income, Employment, and Population to the year 2000," *Survey of Current Business* 60(November, 1980): 44-72.

TABLE 2

Total Personal Income in the U.S., South and Louisiana, 1978-1990

	1978	1990	Average Annual Growth Rate, 1978-1990
	(Millions of 1972 dollars)		
U.S.	1,139,744	1,772,173	3.7
South	321,766	544,543	4.5
Louisiana	17,815	30,091	4.4

Source: Same as for Table 1.

TABLE 3

Per Capita Personal Income in the U.S., South and Louisiana, 1978-1990

	1978		1990		Average Annual Growth Rate, 1978-1990
	1972 dollars	Percentage of U.S. Average	1972 dollars	Percentage of U.S. Average	
U.S.	5,227	100	7,294	100	2.8
South	4,677	89	6,732	92	3.1
Louisiana	4,492	86	6,630	91	3.3

Source: Same as for Table 1.

industrial earnings in the U.S. are forecast to grow at a 3.8 percent annual rate between 1978 and 1990. This compares to a 2.9 percent annual rate which prevailed between 1969 and 1978.

There are a few basic trends which characterize the improvement in earnings growth in the 1980's. First, the services sector should continue to increase in its share of total national output[3] and earnings. In 1978, the services sector accounted for 16.8 percent of total industrial earnings. By 1990, this rate should rise to 19.1 percent. Medical and miscellaneous business services are projected to be two of the strongest areas of growth. The growth in miscellaneous business services reflects a rise in the amount of work which firms contract for, rather than perform in-house. The rise in medical service is due to the rise in the average age of the U.S population, as well as the increase in national personal income. Older persons tend to demand a greater amount of medical services. In addition, all individuals tend to purchase more medical services as their personal incomes rise.

The mining sector should continue to experience rapid growth, with earnings rising at a 4.8 percent annual rate in the 1980's. Although this will be a healthy increase, it represents a significant slowdown from the 1970's when the sector grew at an 8.1 percent annual rate. The slowdown will be characterized by a reduction in oil and gas extraction as the nation gears more towards the use of coal as an energy source.

The transportation, communications and utilities sector should grow rapidly in the 1980's. The communications industry, in particular, will experience increasing demand, and hence earnings, as a result of continued mechanization and the advancement of computer technology.

The construction industry should maintain a constant share of national earnings. This reflects an expected residential construction boom, occurring mainly in the early part of the decade. This will result from the movement of the baby-boom generation into the critical home-buying age group. Once the phenomenon occurs, earnings in the construction industry will begin to taper off later in the decade, causing the overall decade earnings share to remain steady.

Finance, insurance and real estate firms should also experience relatively rapid growth in the 1980's. Some spin-off effects of the expected construction boom in the first half of the 1980's, will be a boost in real estate activity, a projected rise in business investment and an increased demand for consumer credit services.

The manufacturing sector should expand more rapidly than it did in the 1970's. This is likely to occur mostly in the area of durable goods manufacturing as a result of the expansion of specific industries such as nonelectrical machinery, instruments, electronic equipment, fabricated metals, and stone, clay and glass products. An expected rising demand for capital goods exports will also provide a boost in this sector.

Growth in the nondurable goods manufacturing sector will probably fall short of total earnings growth in the 1980's. Particular sluggishness is likely to occur in the areas of food processing, textiles and apparel. A slowdown is also projected for petroleum refining.

The government sector should experience its share of total earnings decline, also. The factors behind the projected relatively slow growth in this sector are a declining demand for public school teachers as enrollments decline and a general desire on the part of federal, state and local governments to reduce the size of their payrolls.

The farming sector should continue to experience earnings growth below

TABLE 4

Earnings by Industrial Sector in United States and Louisiana, 1978-1990

	United States					Louisiana				
Industrial Sector	1978 Millions of 1972 Dollars	Percent of Total	1990 Millions of 1972 Dollars	Percent of Total	Average Annual Growth Rate, 1978-1990	1978 Millions of 1972 Dollars	Percent of Total	1990 Millions of 1972 Dollars	Percent of Total	Average Annual Growth Rate, 1978-1990
Farm	22,125	2.5	25,751	1.9	1.3	242	1.7	315	1.3	2.2
Agricultural services, forestry, fisheries, and other	3,637	0.4	5,648	0.4	3.7	66	0.5	111	0.5	4.4
Mining	13,701	1.6	24,208	1.8	4.8	1,085	7.7	1,369	5.7	1.9
Construction	53,248	6.1	83,774	6.1	3.8	1,417	10.1	2,003	8.4	2.9
Nondurable goods manufacturing	81,065	9.2	117,058	8.5	3.1	1,348	9.6	2,502	10.4	5.3
Durable goods manufacturing	149,450	17.0	234,340	17.1	3.8	1,072	7.6	2,292	9.6	6.5
Transportation, communication and public utilities	67,166	7.6	106,867	7.8	3.9	1,400	10.0	2,432	10.1	4.7
Wholesale trade	57,615	6.6	88,102	6.4	3.6	1,007	7.2	1,675	7.0	4.3
Retail trade	87,791	10.0	133,345	9.7	3.5	1,464	10.4	2,404	10.0	5.2
Finance, insurance and real estate	50,805	5.8	85,911	6.3	4.5	668	4.8	1,291	5.4	5.6
Services	147,968	16.8	262,247	19.1	4.9	2,156	15.4	4,248	17.7	5.8
Government and government enterprises	144,598	16.4	203,816	14.9	2.9	2,091	14.9	3,336	13.9	4.0
Total, All Sectors	879,168	100.0	1,371,068	100.0	3.8	14,016	100.0	23,979	100.0	4.6

Source: Same as for Table 1.

the average overall earnings growth in the U.S. This reflects the anticipated slow growth in the level of food purchases and food exports. This will further be reflected in the slow growth of the manufactured food industries.

Earnings by Industry in Louisiana

Table 4 also presents projections of industrial earnings in Louisiana. Earnings growth in Louisiana in the 1980's would exceed both U.S. and southern earnings growth averages. The state's real industrial earnings are expected to expand at a 4.6 percent annual rate.

Rapid growth is projected to occur in manufacturing. Nondurable goods manufacturing, which currently accounts for 9.6 percent of Louisiana's total industrial earnings, should increase its share to 10.4 percent by 1990. In addition, durable goods manufacturing will become increasingly important in the Louisiana economy over the next decade. This forecast seems to imply that the state will be successful in attracting new manufacturing establishments. Given the national projections presented above, the specific industries which the state should focus upon in its industrial inducement policy are nonelectrical machinery, instruments, electronic equipment, fabricated metals, and stone, clay and glass products. With the national demand for these products being high, Louisiana could benefit substantially by producing and exporting them.

As projected nationwide, both the service and finance, insurance and real estate sectors should increase their shares of Louisiana's total industrial earnings. By 1990, these two sectors combined are projected to account for 23.1 percent of the state's total industrial earnings.

During the 1969-1978 period, the most rapid growth sectors in Louisiana were mining and construction, growing by 7.0 percent and 6.2 percent, respectively. In 1978 the mining sector, consisting largely of oil and natural gas extraction, accounted for 7.7 percent of total earnings in Louisiana. Comparatively, this sector only generates 1.6 percent of total earnings in the U.S. as a whole. In fact, 7.9 percent of all U.S. mining income was earned in Louisiana in 1978. The Bureau of Economic Analysis projects a very substantial slowdown in Louisiana's mining and construction industries between 1978 and 1990. The projected mining slowdown results from their assumption that oil and gas extraction activity will diminish relative to coal mining in other parts of the country. While the rate of growth which occurred in the 1970's will be difficult to maintain, this author does not believe that this sector will decline as rapidly as the Bureau of Economic Analysis forecast implies. The amount of known existing reserves in the state, combined with the federal government's recent oil and gas price deregulations, should act to keep drilling activity at a healthy level during the 1980's. Finally, there is growing evidence that a substantial lignite coal industry will be developing in the northwestern section of the state during the coming decade.

Construction earnings growth is also projected to be weak over the next ten years in Louisiana. This is due largely to the relatively slow rate of in-state migration. However, a wave of plant relocation and new plant investment decisions of existing industry could combine to boost the nonresidential component of the construction industry. Thus, the Bureau of Economic Analysis construction earnings forecast is also subject to substantial error.

Earnings in Louisiana's farm sector is forecast to expand more rapidly than U.S. farm income. This contrasts to the 1969-1978 period, during which farm income declined in the state. This forecast indicates an expected healthy growth in earnings derived from rice and soybean crops, both of which are important staples of Louisiana's agricultural economy.

Finally, Louisiana's government sector should grow at a reduced rate from that of the 1970's. As for the country as a whole, this slowdown reflects declining school enrollments, falling teacher demand, and a reluctance on the part of federal, state, and local governments to take on new employees. The level of earnings growth, however, should continue to be healthy as government employees benefit from continued pay raises. By 1990, the government sector should account for 13.9 percent of Louisiana's total industrial earnings, second only in its share to the state's services sector.

Conclusion

Over the next decade the Louisiana economy is projected to grow more rapidly than the national economy. The growth in Louisiana's population and personal income should exceed U.S. averages. State per capita income is expected to reach 91 percent of U.S. average per capita income by 1990. Rapid earnings growth is forecast to be concentrated in the manufacturing and services sectors. Strong gains should be made in both the durable and nondurable good manufacturing industries. Mining activity, according to the Bureau of Economic Analysis, will grow at a slower rate. Residential construction in the state is also expected to be sluggish, particularly in the latter part of the decade.

Louisiana's population will not grow as rapidly as that of some other southern states. Florida, Arizona and Texas will continue to attract the largest number of migrants within the South. Slower population growth also implies that state personal income will grow at a rate which is below the southern average. Growth in high-earnings industries, however, should allow Louisiana per capita income to grow more rapidly than that of most other southern states. By 1990 state per capita income in projected to equal 98 percent of the southern average.

[1] U.S. Department of Commerce, Bureau of Economic Analysis, "Regional and State Projections of Income, Employment and Population to the Year 2000," *Survey of Current Business* 60 (November, 1980): 44-72.

[2] The South is defined to include the following states: Alabama, Arizona, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia.

[3] For a discussion of output and employment projections for the 1990's see: Valerie H. Personick, "Industry Output and Employment: BLS Projections to 1990," in *Employment Projections for the 1980's*, Bulletin 2030, U.S. Department of Labor, Bureau of Labor Statistics, June 1979, pp. 25-45.

SHELDON ENGLER is a research economist in the Division of Research of the College of Business Administration at Louisiana State University, Baton Rouge. He is currently a visiting assistant professor of economics at the University of Florida, Gainesville, where he is directing the state's econometric forecasting model project. His interests include regional and urban economics, macroeconomic theory and forecasting.

A. M. M. Jamal

SPECIAL REPORT

FEDERAL SPENDING IN LOUISIANA IN 1979

One of today's main public concerns is how President Reagan's proposed budget cuts, if approved and implemented, will affect the allocation level and pattern of federal funds at the state and local level. More than 90 percent of federal government expenditures are channeled into the states in the form of income payments, grants, general revenue sharing and government purchases of goods and services. Therefore, it is interesting to examine the types and amounts of federal spending in Louisiana for the latest year for which statistics are available.

Federal Expenditures in Louisiana by Function

The Community Services Administration reported that in fiscal year 1979, the federal government spent more than $469.7 billion on direct domestic outlays of which $7.4 billion or 1.5 percent was spent in Louisiana[1]. Table 1 provides a breakdown of federal expenditures, by function, for the nation and for the state.

The largest single component of federal outlays in Louisiana was $1.5 billion spent for General Retirement and Disability Insurance, which accounted for more than 20.5 percent of total state receipts. This category includes Social Security payments, Social Security Retirement Insurance, special benefits for certain groups of disabled workers and payments to states for the determination of disabilities.

The second largest component of the state total was $1.1 billion spent by the Department of Defense. This amounted to 15.1 percent of total federal outlays in Louisiana and represented a significant decline in the share of military expenditures in the state. For the past several years, this category represented more than 20 percent of the federal receipts in Louisiana. The decline of military expenditures in the state may be due to a scaling down of conventional military

TABLE 1

Federal Funds Spent in the U.S. and in Louisiana, by Function, Fiscal Year 1979
(Dollar amounts in thousands)

Function	Amount Spent in U.S.	Amount Spent in Louisiana	State as Percent of Nation	Percent of Total State Receipts
Department of Defense-Military	$108,791,944	$1,129,981	1.0	15.1
Atomic Energy Defense Activities	65,263	....	...	....
Defense-Related Activities	3,567	....	...	....
Foreign Economic and Financial Assistance	567,756	685	0.1	*
Conduct of Foreign Affairs	411,015	220	0.1	*
Foreign Information and Exchange Activities	105,450	....	...	...
General Science and Basic Research	957,105	3,026	0.3	*
Space Flight	2,487,333	125,587	5.0	1.7
Space Science, Applications and Technology	1,330,971	4,723	0.4	0.1
Supporting Space Activities	382,054	2,380	0.6	*
Energy	2,427	....	...	*
Energy Supply	9,795,730	289,702	3.0	3.9
Energy Conservation	368,380	1,658	0.5	*
Emergency Energy Preparedness	1,600,655	584,248	36.5	7.8
Energy Information, Policy and Regulation	348,053	17	*	*
Water Resources	5,371,291	9,227	0.2	0.1
Conservation and Land Management	3,020,037	37,823	1.3	0.5
Recreational Resources	1,717,555	13,070	0.8	0.2
Pollution Control and Abatement	5,361,899	75,865	1.4	1.0
Other Natural Resources	1,494,284	24,515	1.6	0.3
Farm Income Stabilization	9,148,434	135,200	1.5	1.8
Agricultural Research and Services	1,412,271	58,299	4.1	0.8
Mortgage Credit and Thrift Insurance	141,526	1,203	0.8	*
Postal Service	14,851,831	195,321	1.3	2.6
Other Advancement and Regulation of Commerce	2,141,142	19,896	0.9	0.3
Ground Transportation	12,258,312	152,856	1.2	2.0
Air Transportation	3,373,536	32,625	1.0	0.4
Water Transportation	2,195,649	384,219	17.5	5.1
Other Transportation	154,374	154	0.1	*
Community Development	4,530,088	67,901	1.5	0.9
Area and Regional Development	2,660,859	30,716	1.2	0.4
Disaster Relief And Insurance	1,402,648	37,621	2.7	0.5
Education, Training, Employment, Social Services	2,374,204	42,430	1.8	0.6
Elementary, Secondary and Vocational Education	5,703,177	119,631	2.1	1.6
Higher Education	3,850,167	62,606	1.6	0.8
Research and General Education Aids	1,059,958	8,399	0.8	0.1
Training and Employment	12,473,085	196,822	1.6	2.6
Other Labor Services	456,600	3,848	0.8	0.1
Social Services	3,811,286	64,818	1.7	0.9
Health	5,505,394	36,961	0.7	0.5
Health Care Services	46,174,105	677,074	1.5	9.0
Health Research	214,106	....	...	...
Consumer and Occupational Health and Safety	840,849	6,840	0.8	0.1
Income Security	702,627	8,925	1.3	0.1
General Retirement and Disability Insurance	109,530,085	1,538,623	1.4	20.5
Federal Employee Retirement and Disability	12,879,749	124,582	1.0	1.7
Unemployment Compensation	1,305,267	16,297	1.2	0.2
Public Assistance and Other Income Supplements	25,359,423	587,193	2.3	7.8
Income Security for Veterans	11,606,561	220,710	1.9	2.9
Veterans Education, Training and Rehabilitation	2,785,666	43,383	1.6	0.6
Hospital and Medical Care for Veterans	6,105,891	94,534	1.5	1.3
Veterans Housing	47,779	56	0.1	*
Other Veterans Benefits and Services	651,999	6,259	1.0	0.1
Federal Law Enforcement Activities	1,314,363	20,555	1.6	0.3
Federal Litigative and Judicial Activities	327,739	4,936	1.5	0.1
Federal Correctional Activities	287,141	.....	...	...
Criminal Justice Assistance	640,844	8,507	1.3	1.3
Executive Direction and Management	62,425	.....	...	...
Central Fiscal Operations	3,125,863	20,360	0.7	0.3
General Property and Records Management	3,271,476	7,268	0.2	0.1
Central Personnel Management	121,590	261	0.2	*
Other General Government	660,557	3,348	0.5	*
U.S. and State Totals	$469,746,255	$7,499,840	1.6	100.0

Source: Geographic Distribution of Federal Funds in Louisiana, Fiscal year 1979. Compiled for the Executive Office of President by the Community Services Administration.

*Less than .05 percent.

TABLE 2

Federal Funds in Louisiana's Parishes, by Agency, Fiscal Year 1979
(Dollar amounts in thousands)

Parish	Total Federal Outlay	Two Principal Source Agencies	Per-Capita Federal Outlay	Parishes Ranked By Per-Capita Outlay
Acadia	$ 63,377	HEW, USDA	$1,134	49
Allen	28,308	HEW, USDA	1,353	28
Ascension	39,916	HEW, USDA	890	57
Assumption	24,091	HEW, USDA	1,146	47
Avoyelles	75,697	HEW, DOD	1,911	9
Beauregard	25,715	HEW, USDA	922	56
Bienville	21,733	HEW, USDA	1,250	36
Bossier	295,476	DOD, HEW	4,078	3
Caddo	322,082	HEW, DOD	1,315	32
Calcasieu	196,786	HEW, DOD	1,235	37
Caldwell	13,008	HEW, USDA	1,262	34
Cameron	12,817	DOD, HEW	1,335	31
Catahoula	19,641	HEW, USDA	1,662	11
Claiborne	23,544	HEW, USDA	1,395	24
Concordia	32,681	HEW, DOD	1,456	18
DeSoto	35,658	HEW, DOT	1,489	17
East Baton Rouge	738,220	HEW, DOL	2,198	7
East Carroll	23,809	HEW, USDA	2,014	8
East Feliciana	25,459	HEW, VA	1,527	16
Evangeline	45,072	HEW, USDA	1,339	30
Franklin	32,622	HEW, USDA	1,345	29
Grant	22,368	HEW, USDA	1,456	18
Iberia	81,894	HEW, USDA	1,255	35
Iberville	35,374	HEW, USDA	1,136	48
Jackson	20,731	HEW, DOD	1,214	41
Jefferson	388,735	HEW, DOD	785	61
Jefferson Davis	43,742	HEW, DOD	1,374	26
Lafayette	132,464	HEW, DOD	977	54
Lafourche	60,584	HEW, USDA	780	62
LaSalle	21,343	HEW, USDA	1,390	25
Lincoln	41,725	HEW, DOD	1,110	52
Livingston	35,162	HEW, USDA	697	64
Madison	32,889	HEW, DOD	2,230	4
Morehouse	49,090	HEW, USDA	1,441	20
Natchitoches	60,030	HEW, USDA	1,641	12
Orleans	2,643,053	DOE, HEW	4,677	2
Ouachita	160,457	HEW, DOD	1,215	39
Plaquemines	52,488	DOD, HEW	1,574	14
Pointe Coupee	27,750	HEW, USDA	1,215	39
Rapides	281,466	DOD, HEW	2,230	4
Red River	12,915	HEW, USDA	1,374	26
Richland	31,150	HEW, USDA	1,434	21
Sabine	25,069	HEW, USDA	1,234	38
St. Bernard	55,932	HEW, DOD	889	58
St. Charles	29,015	HEW, USDA	827	60
St. Helena	8,543	HEW, USDA	854	59
St. James	44,855	USDA, DOT	2,229	6
St. John	32,169	HEW, DOT	1,113	50
St. Landry	98,778	HEW, USDA	1,175	45
St. Martin	43,462	HEW, USDA	1,194	44
St. Mary	80,770	HEW, DOD	1,292	33
St. Tammany	90,392	HEW, NASA	966	55
Tangipahoa	90,550	HEW, USDA	1,173	46
Tensas	14,647	HEW, USDA	1,725	10
Terrebonne	70,271	HEW, USDA	778	63
Union	24,495	HEW, USDA	1,206	42
Vermilion	52,822	HEW, USDA	1,112	51
Vernon	272,716	DOD, HEW	5,929	1
Washington	61,334	HEW, USDA	1,408	23
Webster	51,216	HEW, VA	1,204	43
West Baton Rouge	19,572	HEW, USDA	1,070	53
West Carroll	18,394	HEW, USDA	1,421	22
West Feliciana	15,282	DOD, HEW	1,528	15
Winn	28,245	HEW, USDA	1,625	13
State Totals	$7,499,840		$1,891	

Source: Same as Table 1.

facilities and greater emphasis on advanced military equipment to meet defense needs. As few of the advanced military facilities are located in Louisiana, defense expenditures in the state fell in 1979.

Other large components of federal expenditures in the state in 1979 were for such items as emergency energy preparedness, public assistance and other income supplements, space flight, health care and transportation.

Total Federal Expenditures in Louisiana, by Parish and Source

Table 2 lists the parishes in Louisiana and provides the total federal outlays, the two largest source agencies, per capita federal outlays and the per capita outlay ranking for each parish. The Departments of Health, Education and Welfare (HEW) and Agriculture (USDA) were the two major source agencies for thirty-seven of Louisiana's sixty-four parishes in 1979. The expenditures attributed to these agencies amounted to $3.3 billion, or 44 percent of the state total. Outlays by HEW included assistance in the form of welfare payments, health services, educational assistance and other social service programs. Expenditures by USDA covered food stamps, school lunch programs and agricultural loans. In most of the parishes where HEW and USDA were the major sources of government funds, the federal appropriations varied *inversely* with the per capita income of the parish. This is as expected since most of the HEW and USDA funds are spent to meet the needs of low income individuals.

The Department of Defense (DOD) was the primary source agency for five parishes and was the second largest source in thirteen other parishes. This is primarily attributed to the military establishments in these areas. The largest military operation in the state is at Fort Polk in Vernon Parish. 1979 DOD expenditures in the parish were $237 million, which was less than the amount spent in

1978. This was due mainly to a reduction in military construction outlay in the parish. Bossier Parish, where Barksdale Air Force Base is located, received $185 million in defense outlays which accounted for 63 percent of the parish total. Other parishes where defense expenditures were the major source of federal funds, are Rapides (England Air Force Base), Plaquemines (Alvin Calender Field) and West Feliciana.

Orleans Parish received $864 million under the petroleum emergency preparedness program, representing 33 percent of that parish's total receipts. The parish received $357 million from the Department of Commerce, of which $219 million were for subsidies for ship building. 1979 DOD expenditures in this parish were $210 million compared to $410 million in 1978, representing a decline in military service and supply contracts.

East Baton Rouge Parish received $80 million dollars for projects under the Department of Labor's (DOL's) Comprehensive Employment and Training Act (CETA). This parish also obtained $36 million from the Department of Transportation (DOT) for highway planning and construction. 1979 DOD expenditures in East Baton Rouge Parish were $58 million compared to $89 million spent in 1978. This is attributable to a decline in military supply contracts.

The Veterans Administration (VA) spent $5 million for the construction of extended care facilities in East Feliciana Parish, which made VA the second largest source of federal funds in that parish.

The number two source of federal funds in both St. James and St. John Parishes was DOT. Substantial funds were expended in those parishes in 1979 to complete the Interstate 10 link between Baton Rouge and New Orleans.

Per Capita Federal Expenditures in Louisiana, by Parish

The average per capita federal receipts for the state in 1979 was $1891, giving Louisiana a rank of thirty-seventh among the fifty states and the District of Columbia. In 1976 and 1978, Louisiana ranked forty-third and forty-fifth, respectively, in per capita federal expenditures[2]. The District of Columbia had the highest ranking with per capita expenditures of $22,091 in 1979. Alaska ranked second with per capita outlays of $4795. The 1979 U.S. average of per capita federal outlays was $2126.

The per capita outlays in each parish, given in Table 2, allow for a more significant comparison between parishes[3]. In the past years, all the parishes which listed DOD as the primary source agency placed in the top ten per capita rankings. Of these, only Vernon, Bossier and Rapides Parishes could be ranked among the top ten in the state for 1979. With a federal outlay of $237 million and a 1979 population of 46,000 Vernon Parish, ranked highest in terms of per capita federal expenditures for Louisiana.

With $2643 million in federal expenditures, Orleans parish received 35 percent of the state's total receipts. Even with Louisiana's largest parish level population of 565,120, Orleans per capita receipts were only the second highest in the state.

Only seven parishes in Louisiana had greater per capita expenditures than the national average. These were either due to defense-oriented expenditures or outlays on special projects (for example, the CETA projects in East Baton Rouge, energy-related projects in Orleans, and highway projects in St. James Parishes).

Conclusion

The per capita federal expenditures in the state have been increasing faster than in the nation, since 1976. This is mainly attributable to increasing expenditures in the sectors related to energy, water transportation, training and employment, and space research. The gains in these sectors have offset the decline in defense oriented expenditures.

Since much of the gain was due to federal expenditures on special projects, it might not be sustained in the future. For example, if federal defense expenditures in Louisiana decline further, this may have a detrimental effect on the state's economy. Under the present administration, however, this is not likely to happen.

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[1] Source of federal outlays for U.S. and Louisiana, 1976-1979: *Geographic Distribution of Federal Funds in Louisiana*, Fiscal years 1976-1979.

[2] Ibid.

[3] The 1979 estimates of parish population are based on 1978 estimates by the Bureau of Census, U.S. Department of Commerce.

A. M. M. JAMAL is a research economist in the Division of Research of the College of Business Administration at Louisiana State University, Baton Rouge. His current research interests are econometric modeling and forecasting.

COLLEGE HIGHLIGHTS

Quantitative Skill Seminars

Two special quantitative skill seminars are being offered this spring for state government employees, on the LSU Campus. The first seminar, "An Introduction to SAS (Statistical Analysis System)" will be held on April 21 and 23 from 1:30 to 4:30 p.m. The second, "Introduction to Descriptive Statistics," will be held on June 16, 17 and 18 from 1:30 to 4:30 p.m. Both seminars will be taught by Ms. Darlene Richard of the Quantitative Methods Department at LSU. Credit under the Louisiana State Employee Career Enrichment Program, coordinated by the Government Services Institute (GSI) at LSU, will be given to all seminar participants. For more information, call: Nell Golden or Laura Lemoine, GSI at LSU, 388-6746.

Second Annual J. C. Greer Distinguished Speaker Series to Feature Professor Karl F. Brunner

"Can President Reagan Change the Trend in Our Financial Policies?" will be the topic of Professor Karl F. Brunner's presentation at the Second Annual J. C. Greer Distinguished Speaker Series to the hosted by LSU's College of Business Administration in late April.

Professor Brunner, currently Fred H. Gowen Professor of Economics and Director of the Center for Research in Government Policy and Business at the Graduate School of Management of the University of Rochester in Rochester, New York, is a world renowned economist in the areas of money and banking. In addition to founding two professional journals, *The Journal of Money, Credit and Banking* and the *Journal of Monetary Economics*, he has published three series of books and numerous articles on monetary economics.

M.B.A. Program Continues to Grow

Student enrollment in LSU's Masters of Business Administration program reached an all time high this spring semester. According to Lamar B. Jones, Associate Dean in the College of Business Administration, the number of M.B.A. students this semester (323) is twelve percent higher than last spring's level (288).

LSU Beta Alpha Psi Chapter Awarded Superior Rating

The Beta Alpha Psi honorary accounting society awarded its LSU chapter a superior rating at its recent national meeting in Boston. This rating represents the highest award the national fraternity bestows on its chapter members. LSU has received the award for the past three consecutive years.

Mr. Alyesse J. LeGrange, the LSU Chapter nominee, was named Accountant of the Year in Industry after competing with many other nominees from across the country. Mr. LeGrange is presently Vice President and Controller of the Exxon Corporation, U.S.A. He is a 1951 graduate of LSU.

Recent Faculty Publications

- David B. Johnson, Director of the Division of Research, has coauthored the following book with Raphael G. Kazmann, Associate Director of the Louisiana Water Resources Research Institute: *If the Old River Structure Fails: The Physical and Economic Consequences* (Baton Rouge, LA: Louisiana Water Resources Research Institute, 1980). Their study on the causes and consequences of a change in the course of the Mississippi River was widely reported in the national, regional and local press and television.
- Adrienne McElwain, Assistant Professor of Economics has joint-authored the following report with other members of North Carolina's Research Triangle Institute: *North Carolina Rate Demonstration Project; Carolina Power and Light Company Study; Volume II; Results and Conclusions* (Research Triangle Park, N.C.: Research Triangle Institute, 1980).
- Terence A. Oliva, Associate Professor of Management, and Michael H. Peters, Associate Professor of Quantitative Methods, have published the following textbook: *Operations and Production Management* (Boston: Prindle, Weber and Scmidt, Duxberry, 1980).

New Faculty

- Mr. William D. Samson of the University of North Carolina at Chapel Hill has joined the Department of Accounting as an Assistant Professor in Corporation and Individual Income Taxes. Mr. Samson earned his M.B.A. degree from Old Dominion University.
- Dr. Daniel L. Sherrell has joined the Department of Marketing as an Assistant Professor in Consumer Behavior and Marketing Research. Dr. Sherrell earned his M.B.A. degree from Auburn University, and his Ph.D. degree in Business Administration from the University of South Carolina.

IN APPRECIATION

The **Louisiana Business Review**, a quarterly publication of the Division of Research in the College of Business Administration at Louisiana State University, is dedicated to providing worthwhile and timely information on local, state and national economic developments of interest to members of the Louisiana business and government communities. This objective is being achieved by presenting high quality, readable articles written by knowledgeable representatives from business, government and academia. The Division would like to express its sincere appreciation to the following companies whose valuable contributions have made this publication possible:

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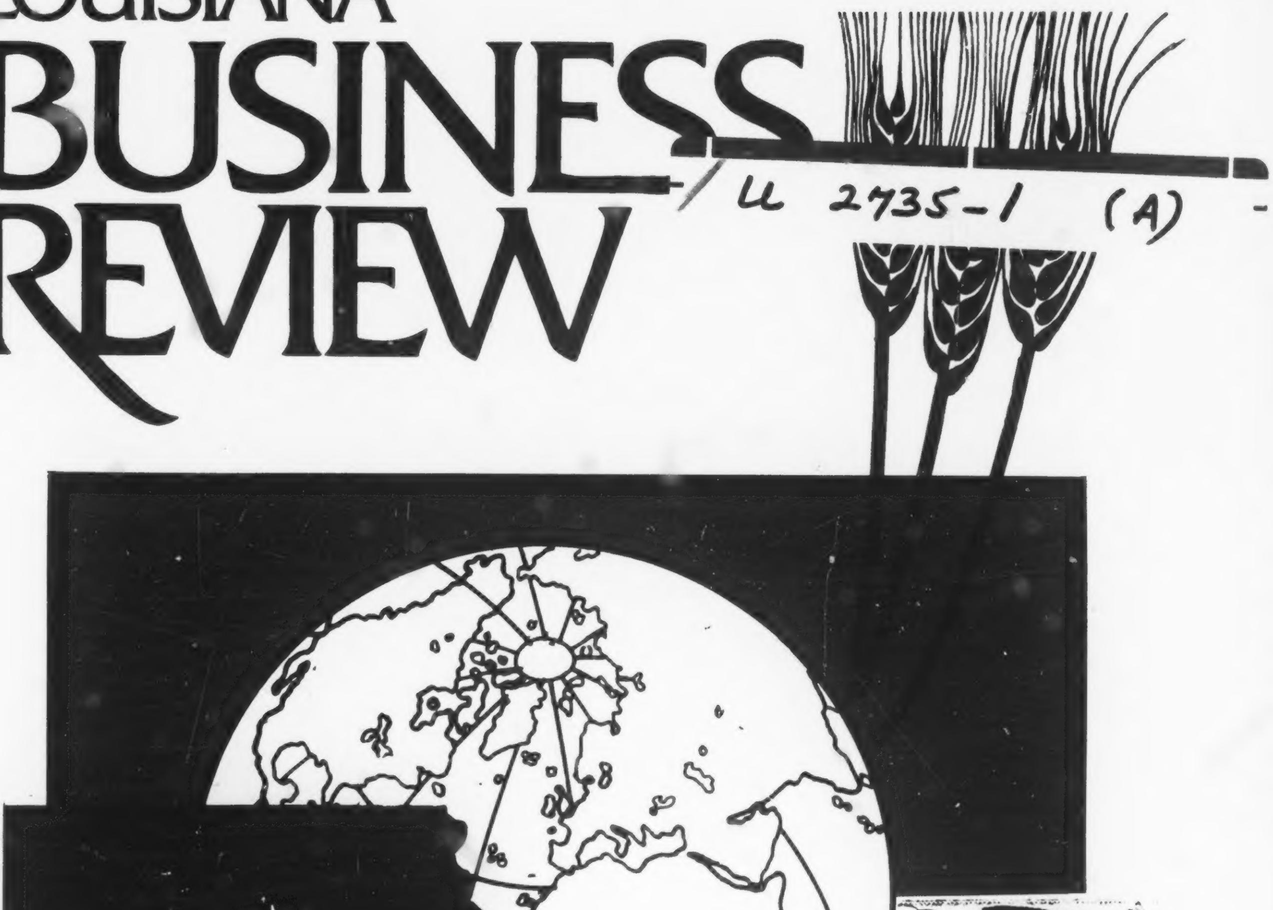
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Louisiana: The International Connection

LETTER FROM THE EDITORIAL BOARD

Twenty years ago international trade was so relatively unimportant in this country that it was seldom mentioned in the communications media, taught in much depth in college classrooms, or discussed in political debates. But, as in so many other areas, times have changed. United States exports, which accounted for only 5 percent of GNP in 1960, now (1980) account for 13 percent of the nation's GNP. U.S. direct investment abroad, which was $11 billion in 1960, is now $193 billion; and foreign direct investment in this country, which was $6 billion in 1960, is now $53 billion.

These statistics are merely indicative of the increasing importance of international trade and finance in the United States, A well known advantage of international trade is that it provides a wider array of products at lower prices. However, increases in trade as well as shifts in its composition affect many other variables in our domestic economy. Transportation networks, financial centers, service industries, education, population distribution, and even politics have been impacted by recent trends in international trade.

Changes in international trade have had a greater impact on Louisiana and its neighboring states than on most other areas of the country. Houston has become not only an important international port and trade servicing center, but it is also developing into one of the major international banking centers in the country. Although not every one agrees on the criteria used in the evaluation, New Orleans is now believed to have the world's second largest port (after Amsterdam) which handles approximately three-fourths of total U.S. waterborne commerce. Baton Rouge is said to be the nation's fourth largest port. Based on a 1977 Port of New Orleans study, the foreign trade sector accounts for approximately 180,000 jobs in Louisiana. Most of the petrochemical firms located on the Mississippi are engaged in importing supplies, exporting products, or both. Traffic on the Mississippi River has increased to such an extent that the Baton Rouge-New Orleans reach of the river has serious congestion problems. The impact of international trade in Louisiana is not confined solely to the production and transportation of goods. Louisiana hotels, shopping centers, chemical plants and a steel mill are examples of investments financed by foreign capital. Because of the importance of international trade to the nation and to Louisiana, this issue of the *LBR* is devoted to this topic.

If international trade is to occur there must be some mechanism which enables the currency of one country to be exchanged for the currency of another country. This is the role of the foreign exchange market. The abandonment of the fixed exchange rate system in 1971 and the adoption of flexible rates have increased the importance of the foreign exchange market, especially forward and future exchanges. In "Hedging Foreign Currency Risks: The Futures Market Alternative," Pat Culbertson explains how U.S. businesses can avoid some of the risks of changing foreign exchange rates.

Increasing trade among countries brings numerous advantages to most citizens living in both the importing and exporting countries. Yet, in a world with a fragile political environment, trade has often been viewed as a lever which can be used to pry political concessions from a trading partner. The oil embargo by OPEC in 1973, the U.N. boycott of Rhodesia and the U.S. grain embargo are just a few examples of politically inspired trade restrictions. The costs and benefits of such restrictions are difficult to determine. Susan Linz examines this topic in her article, "U.S. Trade Restrictions and Soviet Political Policy: Impact of the 1980-81 Grain Embargo."

During the post-World War II period the flow of direct investment funds was primarily from the United States to Western Europe and Japan. During the past ten years, we have witnessed a partial reversal of these flows, as foreign companies have significantly increased their capital investments in the United States. As pointed out by Ben Kedia and Stephen Young, in "Foreign Direct Investment in Louisiana: Employment and Environmental Impact," *Louisiana* has continually ranked number one in investment by foreign-owned firms, among the ten southeastern states. However, within the southeastern region the state ranks seventh in the number of jobs generated by foreign investment.

International, as well as domestic, trade generally reinforces most moral precepts; the "cheaters," "liars" and "stealers" are soon discovered by their trading partners and excluded from further participation. In certain cases, however, such as when the buyer is employed by a large bureaucracy and has no direct incentive in purchasing quality products at the lowest price, or when the culture or *modus operandi* of the country is such that it is expected that the buyer will earn this compensation from "bribes," serious problems of corruption and morality can arise. The Foreign Corrupt Practices Act was passed by the U.S. Congress at the bequest of the Carter Administration in 1977 with the objective of curtailing certain corrupt practices by U.S. businessmen trading in foreign countries. Serious questions are now being raised about the efficacy of this legislation and such concerns are expressed in this issue's FORUM column by Edwin C. Duerr and Manly E. "Tom" Staley.

We would like to conclude with a personal note of gratitude and recognition. Miss Marian Lawrence, who labored on the production of the *Louisiana Business Review* for 23 years, retired on July 1, 1981. We, along with her many friends who have supplied data to her and who have read the *LBR*, wish her a long, interesting and rewarding retirement.

—The Editorial Board

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Publisher:
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Editor:
Ana María Turner Lomperis

Art Consultant:
Chet Boze

Editorial Assistant:
Susan C. Mitchen

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The Editorial Board invites the submission of manuscripts, to be considered for publication in this quarterly. Style sheets for manuscripts and manuscript abstracts are available upon request. Comments and suggestions on any material appearing in the *LBR* are also welcome.

All communications and address changes should be sent to the editor, Louisiana Business Review, Division of Research, College of Business Administration, Louisiana State University, Baton Rouge, LA 70803, (504) 388-6645.

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The amount of foreign direct investment in the United States has risen significantly since the mid-1960's. Among the ten southeastern states, Louisiana continues to rank first in terms of the total book value of property, plant and equipment invested by foreign-owned manufacturing firms in this country. The size, nature and location of this investment has important implications for the state's employment and environmental conditions. Most foreign-owned manufacturing firms in Louisiana tend to be large, capital-intensive businesses. In addition, the concentration of foreign firms in the field of chemical and allied products adds to an already existing environmental problem in the state. On balance, foreign direct investment in Louisiana seems to be a mixed blessing for the state.

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by Susan J. Linz

Recent attempts by the United States to use trade leverage to attain non-economic concessions from the Soviet Union have not, in general, been successful. The 1980-81 grain embargo is an excellent example of the lack of effectiveness of such an approach to foreign policy making. This paper illustrates this point by first, examining the particular characteristics of the embargo and its impact on the Soviet economy; second, explaining the undermining effects on the economic impact of the embargo stimulated by both the actions of the Commodity Credit Corporation (CCC) and occurrences of redirected trade and transshipment; and third, mentioning the significance of the embargo to the Louisiana economy.

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Hedging Foreign Currency Risks:

The Futures Market Alternative

Both Louisiana and the nation share a growing dependence on the rapidly expanding world market. If the benefits of a growing international commerce are to be fully exploited, however, some innovative methods for managing foreign exchange rate risks must be explored by exporters and importers. This article demonstrates how foreign trade participants may use the relatively new currency futures markets to hedge exchange rate risks in a cost-effective manner.

During recent decades a phenomenal growth in international trade has occurred. For example, Table 1 shows that U.S. exports of goods and services have grown from $29 billion in 1960 to over $341 billion in 1980.[1] However, export statistics alone fail to indicate the vast flows of international lending and equity finance which have become so characteristic of the international scene. A recent publication of the Federal Reserve Bank of Kansas City estimates that U.S. investment in foreign stock markets has reached an annual flow of over $18 million.[2] Furthermore, the Euro-currency market has been estimated at over one trillion dollars in 1980.[3]

United States participation in world trade has been growing at even a faster rate than the U.S. economy over the last two decades. Again referring to Table 1, we note that U.S. exports are over ten-fold their 1960 level. This implies an average annual growth rate of 13 percent which is one and one-half times greater than the rate of growth of the U.S. Gross National Product (GNP) (8 percent). Added significance can be given to those figures by recalling that a nation's GNP measures the annual flow of income accruing to people in the economy. Thus, as column four of Table 1 shows, an increasing proportion of U.S. income is being earned in the international trade sector of the economy. This fact has a direct bearing upon the allocation of jobs. This effect is illustrated in column five where it is assumed that the occupational distribution of jobs is proportional to the trade/GNP ratio of column four. Thus, in 1960 one of every twenty occupational opportunities was in the international sector. This figure doubled by 1980 and currently approximately one of every eight American jobs is dependent (directly or indirectly) on the nation's stake in world trade.

What might the future hold? Prediction is always risky but row three of Table 1 provides the figures for the year 2000 should the trends of the past twenty years continue uninterrupted into the future. By the year 2000, U.S. trade will have grown to a figure of almost $4 trillion. This will represent 20 percent of an annual GNP of $13 trillion. By the year 2000, nearly one of every three jobs will owe its existence to our international commerce.

The national picture will also be reflected, to a greater or lesser extent, in the economic profile of the various states. Some states will naturally be more involved with international trade than will others. For a number of reasons, Louisiana can be expected to have a rapidly growing involvement in trade. Because of its location, Louisiana is a natural port. Indeed, the Port of New Orleans is currently considered to be the world's second (after Amsterdam) largest port, and if the entire river front to Baton Rouge is included, perhaps the largest. Obviously these facilities will play a critical and growing role in the future of world trade. Secondly, Louisiana's agricultural products are increasingly of the export variety with rice and soybeans leading the list. At present, the output of one out of every three acres planted in the U.S. is exported—and this can be expected to increase in the future. Finally, due partly to its location and ethnic composition, Louisiana offers a natural cultural and geographic "bridge" to the vast, growing and still largely untapped resources of Latin America. As a consequence, we can expect the Louisiana economy to derive a more than proportional benefit from the growth in world trade.

However, for the benefits of a growing international commerce to be realized, there must co-exist a smoothly functioning international financial system to facilitate the flow of trade and payments among nations. We live, after all, in a world of different national currencies and if the plywood mills of Japan are to buy the raw lumber from Louisiana forests, there must exist a market in which Japanese Yens can be traded for U.S. Dollars. This market in which Yen and Marks and Lira and Francs and all other currencies are traded is called, of course, the foreign exchange market. The remainder of this article focuses on one segment of

TABLE 1

U.S. International Transactions

Year	Exports[a] (Millions of dollars)	GNP (Millions of dollars)	Exports/GNP (Percentage)	Jobs in Exports
1960	29,000	506,000	5	1-of-20
1980	344,000	2,600,000	13	1-of- 8
2000	3,960,000	13,360,000	29	1-of- 3

[a]Exports of goods and services.

Source: Federal Reserve Bank of St. Louis, *International Economic Conditions* (April 1981).

50
Banknote
FÜNFZIG DEUTSCHE MARK
50
£10
BANK OF ENGLAND
£10
694626
0704484
CANADA
0704484
Royal Bank of Scotland Limited
£10
DE MEXICO
cincuenta pesos
50
50
50

this system—the futures market for foreign currencies—and demonstrates how futures markets may be used by international businesses to manage foreign exchange risks.

CURRENCY MARKETS: SPOT, FORWARD, AND FUTURES

There are three segments of the foreign exchange market. Each of these is briefly described in this section.

The Spot Exchange Market

The spot exchange rate applies to currency transactions to be delivered "on the spot," that is, today. In practice, foreign exchange bought (or sold) at the spot rate is available to the buyer (or made available by the seller) two business days after the transaction. The spot market is mainly a bank market since most buyers, as well as sellers, of foreign exchange find it convenient to purchase and to sell exchange through the banking system. For example, when a purchase of foreign exchange is made, the selling bank transfers the exchange by cable to a foreign bank with which it has a correspondent relationship on the day which the buyer has indicated. Thus, if Corporation XYZ in San Francisco buys 500,000 Swiss Francs from the Bank of America on Friday, July 10, 1981, Corporation XYZ can write a check against a Zurich bank payable on Tuesday, July 14 to settle any Swiss Franc obligation due that day.

The Forward Exchange Market

Forward exchange rate quotations are prices, contracted today, calling for the future delivery of an agreed-upon quantity of foreign exchange. As with the spot market, rates for forward exchange contracts are quoted by banks. Forward contracts are bought and sold by the exporters and importers of goods, services and capital whose foreign currency receipts and payments are scheduled to occur on these future dates. The forward contractors thus assure themselves of the domestic currency value of their receipts or payments as of a particular future date. In addition, speculators who hope to profit from accurate predictions of future spot exchange rates also find the forward market a useful place to buy or sell foreign currencies.

The Futures Exchange Market

A futures contract is an obligation to make delivery or to take delivery of a specified quantity of foreign currency at a specific date in the future at a price agreed upon today between buyer and seller. As such, futures contracts are very similar to the forward contracts bought and sold by banks. There are, however, some important differences between the two markets. Futures contracts are valued at standardized amounts of foreign currency (e.g., 25,000 British Pounds, 125,000 Swiss Francs, 12.5 million Japanese Yen, etc.) and are traded every business day on organized exchanges (e.g., the International Monetary Market) with the current price being set by open auction among buyers and sellers. Unlike forward contracts, which call for delivery thirty days, ninety days or 180 days from the date of the contract, trading in a futures contract terminates on a specific day in the "delivery month." Hence, trading in the "September British Pound" contract will cease on the Monday prior to the third Wednesday (delivery day) of *September*. Notwithstanding these important distinctions, participants in the foreign exchange market find the services provided by the forward market and the futures market to be very good substitutes for one another.

With this introduction to terminology and institutions, we are now ready to describe how foreign exchange risks may be reduced through hedging.

RISK AND INTERNATIONAL EXCHANGE

Two types of risk beset international transactions. "Commercial risk," which is common to all business ventures, is of a purely domestic nature. This type of risk includes the risks that (1) a party will default on the transaction, (2) political factors will abort the agreements, (3) changing interest rates will result in capital losses, and so forth. In addition, international ventures are almost always subject to an additional uncertainty, that of "exchange rate risk." This risk occurs for two reasons. First, in most instances one of the parties to a foreign transaction must execute an exchange of one currency for another. Secondly, currency transactions usually take place some time after the contract specifying prices and terms has been concluded. Since exchange rates, like other market-determined prices, are variable, the possibility always exists that a changing exchange rate can work to the detriment of one of the parties to an international transaction.

The following examples illustrate how both domestic (i.e., U.S.) importers and domestic exporters may use the currency futures markets to reduce the exchange rate risks inherent in their transactions.

The Domestic Importer

Let us assume that it is April 7, 1980 and a U.S. importer is considering importing 200,000 alarm clocks from a firm in Switzerland. The importer requires at least a 10 percent return over cost. Suppose the clocks cost 20 Swiss Francs (SF) each and the importer anticipates a sales price in the U.S. of $12.25 per clock or $2,450,000.00 in total revenue. Further, suppose that he must order the clocks now but will not receive them until July 7, 1980. He will pay for the clocks in Swiss Francs (200,000 clocks x SF 20.00 = SF 4,000,000.00) upon their receipt on July 7.

The importer faces two important questions: (1) should he undertake the transaction, and (2) if so, how can he cheaply and effectively insure the transaction against foreign exchange rate risk? To answer the first question, he needs to examine three alternatives: (1) carrying out an "unhedged" transaction; (2) hedging his foreign exchange rate risk via the spot market for foreign currencies; or (3) hedging his foreign exchange rate risk via the futures market for foreign currencies.[4]

The unhedged transaction. In the first instance, the clock importer might consider accepting the risk of an unhedged transaction. He could simply wait until July 7 to acquire the necessary SF 4,000,000, hoping that the exchange rate will remain near the April 7 level of $0.5319 per Swiss Franc or even go lower. As events of 1980 de-

TABLE 2

Hedged Import Transaction Via Futures Market

Revenue (anticipated upon sale of clocks)	$2,450,000.00
Costs	
1. Of acquiring Swiss Francs (Spot market price of $0.6243 per SF on July 7 x SF 4,000,000)	− $2,497,200.00
2. *Plus* gain on futures hedge (Selling price of $0.6363 per SF minus buying price of $0.5556 per SF × SF 4,000,000)	+ $ 322,800.00
3. *Minus* $960.00 commission charges	− $ 960.00
Net Revenue	+ $ 274,640.00

veloped, acceptance of this risk would have been disastrous. On July 7 the spot Swiss Franc exchange rate had risen to $0.6243 per SF. This would have raised the importer's cost for the clocks to ($0.6243 per SF × SF 4,000,000. =) $2,497,200.00, which exceeds his anticipated revenue of $2,400,000.00. Clearly, unhedged international transactions offer no insurance against exchange rate risk.

Hedging via the spot market. As a second alternative, the clock importer could try to lower his exchange rate risk by participating in the spot market for foreign currencies. The spot exchange rate prevailing on April 7, 1980 of $0.5319 per SF will yield the importer a greater than 10 percent profit, since the SF 4,000,000 needed to purchase the clocks can be acquired at a U.S. dollar cost of ($0.5319 per SF × SF 4,000,000=) $2,127,600.00.

However, in order to assure the spot price of $0.5319 per SF, the importer must acquire the 4 million francs today (April 7). This means that his $2,127,600.00 will be tied up in Switzerland until July 7 when he receives the clocks. If the importer's interest cost for the $2,127,600.00 were as high as, say, the prime interest rate, his net revenue could easily fall below his required 10 percent margin. For example, at a prime rate of 20 percent, the importer would pay ($2,127,600.00 x 0.20 percent per year x ¼th year =) $106,380.00 in interest costs plus a transactions cost (to arrange the loan) of perhaps (1 percent × $2,127,600.00 =) $21,276.00 which, taken together, yield only a 6 percent return.[5]

Hedging this transaction through the spot market could be a relatively expensive proposition, and as the data in this example indicate, even that the hedged transaction should not be undertaken.

Hedging via the futures market. The domestic importer's third alternative would be to buy thirty-two September Swiss Franc futures contracts at today's (April 7) prevailing price of $0.5556 per SF. (The value of each Swiss Franc futures contract is SF 125,000, therefore SF 4,000,000 would be covered with thirty-two contracts.) This assures the importer that even if the price of the spot Swiss Franc should increase between April 7 and July 7, his futures position will also increase and thus act to offset the loss he would have incurred in an unhedged position.

In reality, the spot SF rate reached $0.6243 per SF on July 7 which would have caused a loss of ($0.6243 − $0.5319 =) $0.0924 per each of SF 4,000,000 or $369,600.00 to the clock importer. However, this spot market loss would have been offset by the gain on the futures market position. The thirty-two contracts purchased for $0.5556 per SF on April 7 would have been sold on July 7 at the prevailing price of $0.6363 per SF, yielding a profit on the futures position of ($0.6363 − $0.5556) per SF or $322,800.00 which would have offset the spot market loss. Adding in a hypothetical transactions cost of $960.00 (thirty-two contracts x commission charges of $30.00 per contract) completes the picture of the costs of hedging through the futures market. The details are summarized in Table 2.

Note that this method of hedging does yield a return-over-cost in excess of 10 percent ($274,640.00 ÷ $2,175,360 = 12.6 percent). Consequently it is evident from this sample, based as it is upon actual, historical exchange rate data, that the futures market can often offer a viable and lower-cost method of hedging than can be accomplished through the spot market.

This example illustrates the classic "long hedge." In this case the foreign exchange risk was due to the importer's commitment to pay for the clocks in *foreign currency*. The transaction was hedged as the importer bought (went "long" on) Swiss Franc futures contracts and thus assured that any losses due to an increase in the spot market cost of the currency would be (at least partially) offset through the increasing value of (and profit on) the futures market position.

The Domestic Exporter

The "long hedge" has, as its natural counterpart, the "short hedge." And just as U.S. importers typically find themselves in a position where they must buy foreign currency, U.S. exporters often earn foreign currency receipts which they must convert into U.S. dollars.

Assume that it is January 5, 1981 and a U.S. auto exporter, who sells a number of cars to a West German dealer, agrees to be paid upon delivery in West German Marks (DM).[6] Suppose that the contract is concluded today (January 5) and the U.S. exporter is to receive the DM 2,000,000 payment when the autos are received on March 13. At that time of course, the U.S. exporter will sell the DM 2,000,000 for dollars—but what price will he receive two and one-half months from now (January 5)?

The risk is precisely opposite that of our previous example. Here the exporter fears a decline in the value of the DM—a decline which could easily convert profit into loss. Consequently, the U.S. exporter should note the spot DM rate of $0.5155 prevailing on January 5 and, realizing that there is no guarantee that the DM will be at that level on March 13, should prudently sell sixteen

March DM future contracts to cover the DM 2,000,000 he will receive and sell in the spot market on March 13. The March DM futures rate on January 5, 1981 was $0.5241 per DM.

As in our previous example, market developments subsequent to January 5, 1981 bear out the wisdom of this exporter's hedge. By March 13 the spot DM had depreciated from its January 5 level of $0.5155 to a rate of $0.4746 per DM. The March DM futures rate had followed suit with the declining spot rate and, because trading in the contract was about to expire, also stood at $0.4746 per DM. Consequently, the U.S. exporter would have had to sell his DM 2,000,000 in the spot market at $0.4746 per DM and not at the rate of $0.5155 per DM which he had anticipated on January 5. The spot market sale would have caused him a loss of ($0.4746 − $0.5155 per DM x DM 2,000,000 =) −$81,000.00 on this part of the transaction.

Once again, however, his futures market hedge would have succeeded in offsetting this loss as the sixteen contracts which were sold for $0.5241 per DM could have been bought on March 13 at the prevailing March DM futures price of $0.4726 per DM. This would have yielded a gain of ($0.5241−$0.4726 per DM) × DM 2,000,000=) $103,000.00 to offset the spot market loss of −$81,800.00. Thus the hypothetical commission charges of (sixteen contracts × $30.00=) $480 appear as a miniscule "insurance" fee for the price protection afforded by the futures hedge.

Spot-Futures Market Link

Upon closer inspection of these two examples, we find the necessary condition which makes futures market hedging possible: spot prices and futures prices move together through time. Thus, developments that adversely affect an exporter's or importer's spot market position will be largely offset through the parallel developments in the futures market which will increase the value of his hedged position.

Consequently, the conditions for successful hedging in any futures market depend crucially upon how well futures and spot market prices "track" one another. The closer the degree of tracking, the better the futures contract will be as a hedging vehicle.

Historically, spot and futures rates have tracked each other very closely. If they did not, there would exist opportunities for risk-free arbitrage profits, and the two prices would be driven back into line with one another. Consider what would happen if the September British Pound (BP) futures contract suddenly jumped to $3.00 per BP while the spot BP rate remained near $2.00. Arbitragers could immediately profit by (1) borrowing dollars in the United States; (2) buying BP's in the spot market (where they are "cheap"); (3) selling September BP futures contracts (which are "dear"); and (4) investing the proceeds in Britain (at interest rates comparable to U.S. levels) until time to deliver the pounds called for under the September contracts. At that time the dollar loans would be repaid and the arbitragers would have made a risk-free return of (selling price of $3.00−buying price of $2.00=) $1.00 for each $2.00 invested. The huge supply (sales) of September BP futures contracts prompted by these profits would very quickly and surely bring the spot and futures rates back into a stable relationship with one another.[7]

THE FUTURE FOR FUTURES

Currency futures contracts are excellent vehicles for managing the exchange rate risks inherent in international trade. In a world of rapidly expanding international opportunities, a growing role can be expected for the currency futures markets. At present there exist two thriving exchanges on which currency futures are traded. The International Monetary Market (IMM) of the Chicago Mercantile Exchange pioneered currency futures trading in 1972. In recent months trading volume has on occasion reached over 30,000 contracts per day in the five major currency contracts traded. The New York Futures Exchange opened in 1980 and is currently experiencing the more modest volumes which are usually manifest in a newer exchange. As with the IMM, however, steady growth can be anticipated.

In a relatively short period of time currency futures markets have attracted both the commercial hedger and private speculator. Through a growing volume of business, futures markets continue to prove themselves as a viable hedging alternative against the intrinsic foreign exchange rate risks of international commerce.

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[1] While a part of this growth is, of course, due to inflation, real (inflation adjusted) trade figures have still shown a 7 percent annual growth rate.

[2] Richard Abrams and Donald Kimball, "U.S. Investment in Foreign Equity Markets," *Federal Reserve Bank of Kansas City Economic Review* (April 1981): 17-31.

[3] Federal Reserve Bank of St. Louis, *International Economic Conditions* (April 1981): 8.

[4] While this article stresses the usefulness of currency futures as a hedging device, it should be emphasized that much the same can be done through the bank forward market. A customer chooses among futures or forward contracts largely on the basis of cost and convenience considerations.

[5] The importer can do little to offset these costs by relending the SF 4,000,000 in Switzerland until they are needed to pay for the clocks on July 7. Swiss interest rates, due to a very low rate of Swiss inflation, are nominal compared to U.S. rates. Thus, our importer could expect no more than a 1-2 percent annual interest revenue over the three months during which the Swiss Francs would be available to him for deposit in a Swiss Bank.

[6] In the interest of brevity, this example will not explore the alternative of hedging this transaction through the spot market. Suffice it to say that such a method would entail borrowing DM in Germany, selling the DM in the spot market on January 5, and repaying the DM loan when the West German Mark proceeds are paid to the U.S. exporter upon delivery of the vehicles.

[7] The precise relationship between spot and futures exchange rates depends almost entirely on the interest rate differential between the two countries. While a full treatment of this point lies outside the scope of this article, the interested reader is referred to Pat Culbertson, "The Currency Futures Markets: Some Comparisons with the Forward Market," (manuscript, 1981), available upon request.

PAT CULBERTSON is a professor of economics in the College of Business Administration at Louisiana State University, Baton Rouge. His primary research interests include the behavior of futures and international currency markets.

Edwin C. Duerr and Manly E. "Tom" Staley

FORUM

The Foreign Corrupt Practices Act of 1977, An Unwarranted Restraint on U.S. Exporters

Amendments to "clarify" the Foreign Corrupt Practices Act (F.C.P.A.) of 1977 currently are being considered by both the U.S. House of Representatives Committee on Energy and Commerce (House Bill 2530) and the U.S. Senate Committee on Banking, Housing and Urban Affairs (Senate Bill 708). This Congressional review reflects the shift in mood and emphasis in Washington, D.C. with respect to our dealings with foreign nations on the part of the Reagan versus the Carter administrations. The original F.C.P.A. of 1977, which reflected the Carter administration's concern with the morality of U.S. foreign policy, imposed fines and jail sentences for bribing or offering to bribe foreign officials. In addition, the "Accounting Standards" section of the law imposed fines and jail sentences for failure to record transactions in such a fashion as to "permit preparation of financial statements in conformity with generally accepted accounting provisions. . . ."

The vagueness of both the anti-bribery provision and accounting mandate of the original F.C.P.A. has raised concern in the business community. This concern, coupled with the Reagan administration's strong stance against over-regulation of business, have resulted in the amendment proposals now before the U.S. Congress. If approved, these revisions would state that the F.C.P.A. of 1977 does not prohibit payments "customary in the country where made" which are intended to obtain "prompt performance of official duties," and would lessen the record-keeping requirement for U.S. companies.[1] Concern with the F.C.P.A. is certainly well-founded. The objective of this article is to explain the major shortcomings of the original law in restricting U.S. businesses operating overseas.

In the November 1980 issue of this *Review*, Professor Lansing and Mr. Menken explored the accounting requirements created by the F.C.P.A.,[2] and concluded that in spite of its shortcomings "the goal of the Act is desirable" and Congress should simply consider clarifying certain of its provisions. This article presents a contrasting view, arguing that the basic assumption underlying the F.C.P.A.—*that the U.S. government should increase its control of U.S. corporations operating abroad*—is open to serious question. Furthermore, this paper contends that such regulation, which often does not conform with the laws and customs of the host countries, is inadvisable for at least three reasons: (1) attempting to require that business conducted in a foreign country be carried out in accordance with U.S. laws, and consistent with the U.S. ideas of morality is, in our opinion, rather presumptuous; (2) requiring that U.S. businesses operating overseas conform to U.S. domestic business practices, when other companies operating there do not, puts U.S. companies at a competitive disadvantage; and
(3) unilateral action by the United States is probably less effective and more offensive to other countries than an *international* bribery agreement would be.

VARIATIONS IN BUSINESS CUSTOMS AND LAWS

The business customs and laws in other countries are often substantially different from those in the United States. For example, Professor Duerr's years of experience in working with the Japanese convinced him that gift giving to bank officials, to buyers and to superiors in Japan is conducted on a scale that often would violate the policies of almost every major U.S. company and be construed as illegal under U.S. law. Furthermore, business entertainment expenses in Japan, while limited by government regulations, are so large that they might well appear as bribes to the uninitiated American. Duerr concludes that Americans who do not conform to local practices there are apt not to be viewed as "more moral," but probably as inconsiderate or uninformed. Japanese businessmen are not necessarily less moral than their U.S. counterparts.[3] It is simply that their definition of what is polite, acceptable and expected is different than that of the U.S. citizen.

In many countries in Southeast Asia, the Middle East and Latin America, giving a gratuity to a facilitating government official is not viewed as morally wrong. In fact, many civil servants there consider supplementing their salaries (which are frequently low) with receipt of gratuities as necessary in providing a living wage.[4] Furthermore, in these areas, neither the rulers, government officials nor businessmen maintain the strict separation of personal income from monies that should go to the government or their company that most Americans seem to take for granted.[5,6] When 25 to 35 percent of a country's national income is in the form of unofficial payments or bribes, it indicates more than a problem of corruption. It may suggest a basic public acceptance of a different set of norms.

Admiral Sudomo, appointed to the head of the Indonesian National Command for the Restoration of Security and Order, commented that: "Illegal levies are everywhere, and almost everybody is involved."[7] The former governor of Jakarta, Ali Sadikin, has commented that: "The illegal taxes on the highways cannot be abolished. That's culture."[8] A former U.S. Central Intelligence Agency official has stated that "in most foreign countries, it's impossible to do business without bribes."[9] While the latter statement may be a bit too broad, it is indicative of the acceptability of paying gratuities and "commissions" in many countries.

Journalist Henry Weinstein has indicated that Kuwait has institutionalized payoffs by requiring business firms to hire local "agents" who often perform minimal or no commercial services. He further points out that in Saudi Arabia a 5 to 10 percent payment to officials is customary. A member of the royal family is quoted as saying: "We have no intention of accepting U.S. business practices. We have done business in our own way for thousands of years. We will not change just to suit Americans."[10]

U.S. congressional investigations before passage of the Foreign Corrupt Practices Act indicated that the questionable payments being reviewed were not illegal in a number of the countries where they took place. A White House task force on the F.C.P.A. under the Carter administration also indicated that countries which permit payments to "grease" transactions are not pleased by U.S. candor in wanting to publicize payments. "Instead of being held in esteem for a good deed, the U.S. government is criticized for moralizing, for prying into transactions outside U.S. jurisdiction, and for needlessly creating political problems."[11]

Finally, academicians Mark Postin and Michael Hooker have also raised the issue as to whether the F.C.P.A. itself is moral. Using the criterion that a law can be assessed "in terms of its contribution to general social well-being," they conclude that the law has had an adverse effect on the U.S. balance of payments and jobs in the United States. Furthermore, they conclude the F.C.P.A. has failed to improve social well-being in countries that host U.S. business and now will simply turn to non-U.S. suppliers who are willing to make the payments demanded.[12]

COSTS OF NONCONFORMITY WITH LOCAL CUSTOMS

Specific Costs to U.S. Businesses

If a U.S. firm is attempting to do business with a country where it is customary for officials to accept gratuities, it will be at a disadvantage with respect to competitor firms that are not restricted by laws similar to the F.C.P.A. The White House Task Force commissioned by President Carter reported that more than $400 million in U.S. exports per year are being lost to one unnamed country alone, and estimated that the F.C.P.A. is costing a total of $1 billion in lost U.S. exports annually.[13]

A 1981 report released recently by the U.S. General Accounting Office (G.A.O.) confirms this loss of business to U.S. companies.[14] The G.A.O. randomly selected 250 firms out of *Fortune's* top 1000 industrials for its G.A.O. survey on the effects of the F.C.P.A. Of the 75 percent of the firms responding, over 30 percent of those engaged in foreign commerce reported business losses attributable to the F.C.P.A. Most of those reporting business losses claimed that the F.C.P.A. discouraged foreign buyers and agents from doing business with the U.S. firms. About 45 percent of those reporting losses claimed that the F.C.P.A. limited the number of countries in which they were able to conduct business. Of this 45 percent, 20 percent reported they no longer do business in one country, 55 percent in two to three countries and 25 percent, in four to five countries as a result of the F.C.P.A. It is also worth noting that the impact on overseas business was felt by a greater percentage of respondents from the largest 500 *Fortune* companies (45 percent) than from those among *Fortune's* second largest 500 firms (25 percent). Furthermore, over 60 percent agreed with a statement on the questionnaire that "assuming all other conditions were similar, American companies could not successfully compete abroad against foreign competitors that were bribing."[15]

The G.A.O. also conducted a survey of the impact of the F.C.P.A. on U.S. companies in the aircraft and construction industries. An even larger proportion (54 percent) of the respondents to this study reported an adverse effect on business due to the F.C.P.A.[16]

Mr. William M. Agee, Chairman and Chief Executive Officer of the Bendix Corporation, has made the sensible suggestion that the questionable payments issue be treated as an operational, rather that a philosophical concern.[17]

Approaches of Germany and Japan

The actions of the industrial competitors of the United States stand in interesting contrast to the U.S. government approach. For example, Heinz Muriman notes that "German businessmen are also free to extend bribes in the Middle East and elsewhere and actually deduct such payments from taxes—as long as they can prove that corruption was 'imperative' in making the sale."[18] *Der Spiegel* has estimated that $200 to $800 million per year is spent by German firms on foreign payoffs. Finally, a West German government circular warns businessmen that they will lose Libyan orders unless they pay bribes of up to 20 percent of the sale price in some cases.[19]

The Japanese government allows Japanese companies to openly report on tax forms the amounts they have paid as bribes. The accounting entry is "unclear spending." The amount is taxable, but there is no requirement that the companies say who was paid, or where or why.[20]

AN INTERNATIONAL AGREEMENT NEEDED

Over half of the respondents to the U.S. Government Accounting Office study indicated that they believed an international bribery agreement would improve the competitive position of U.S. companies.[21] Efforts are being made in this direction. In 1976, the Organization for Economic Cooperation and Development (O.E.C.D.) adopted a code on bribery. However, the O.E.C.D. guidelines could serve only as a recommendation to its member nations, as the organization has no means of enforcing its policies.

A United Nations Economic and Social Council working group did develop a draft agreement on bribes in 1979, but the General Assembly has not yet passed the measure. At a June 1980 economic summit in Venice, the United States, Britain, Canada, France, Germany and Italy decided to undertake independent action should the United Nations continue to delay.[22]

William T. Coleman, Jr. has correctly pointed out that the current U.S. diplomatic stance stresses "the importance of multinational cooperation in all facets of commerce," and thus the "unilateral imposition of our own concept of economically and socially acceptable behavior as embodied in the F.C.P.A. of 1977," is contrary to this policy.[23]

Actions taken by the international organizations are likely to be simultaneously more effective and less offensive to other countries than unilateral action by the U.S. government.

CONCLUSION

An insistence that U.S. businesses operating overseas conform to domestic U.S. practices is rather presumptuous in that it assumes our standards should be observed by foreign governments. Moreover, U.S. businesses feel that it places them at a competitive disadvantage in overseas environments. Germany and Japan do not impose such constraints on their businesses, and it is the authors' conclusion that the F.C.P.A. should either be amended or replaced by an international agreement. In the interim, U.S. business firms should be permitted to make supplementary payments which are customary in the host country. The bills presently before committees in both houses of the U.S. Congress would permit such payments. In a Senate hearing on May 20, 1981, U.S. Trade Representative William E. Brock, III indicated that the Reagan administration "strongly supports S708."[24] This stance by an administration spokesman suggests to us that at least in the foreseeable future, the F.C.P.A. will probably be enforced by the administration in a manner that will be sympathetic to the competitive needs of U.S. businesses.

[1] Bill Keller, "Policy Turnabout: Business Lobbyists Forsee Success on Top Trade Issues," *Congressional Quarterly* 39 (23 May 1981): 901-03.

[2] Paul Lansing and Erwin Menken, "The Internal Accounting Controls of the Foreign Corrupt Practices Act," *Louisiana Business Review* 44 (November 1980): 7-8, 16-17.

[3] There was public indignation in Japan over the Lockhead scandal. Corporate officials were indicted and the government fell. A presentation of the circumstances surrounding the Lockheed case from the viewpoint of A. Carl Kotchian, who was president of Lockheed from 1967 to 1975, can be found in *Saturday Review*, July 9, 1977 and is reproduced in *Ethical Issues in Business*, by Thomas Donaldson and Patricia H. Werhane (Englewood Cliffs, N.J.: Prentice Hall, 1979), pp. 67-75.

[4] Mr. Harry Lim, in an unpublished paper entitled "On Dealing with Smuggling by Foreign Firms in Indonesia," (San Francisco: San Francisco State University, July 1977), p. 9, has compared government employee salaries for various ranks with government computed minimum monthly Rupiah income requirements for those ranks. His conclusion is that "there is not a single official who can live by his government income alone."

[5] Ibid., pp. 5-7, Mr. Lim also points out in his paper that in colonial Indonesia, officials received a percentage of most resources passing through their hands and many made no distinction between public and private money.

[6] In traditional Thailand, the king inherited a quarter of a minister's estate when the minister died. This was because it was assumed that the minister received side payments (gratuities and bribes) for the conduct of his public function. See: Alex Waugh, *Bangkok* (London: W. H. Allen, 1970), p. 67.

[7] Barry Newman, " 'Sticky Handshakes' are Coming Unglued a Bit in Indonesia," *The Wall Street Journal*, December 8, 1977, p. 1.

[8] Ibid, p. 1.

[9] David Ignatius, "Foreign-Bribery Trials May Show U.S. Knew of Some Payments," *The Wall Street Journal*, 5 October 1978, p. 25.

[10] Henry Weinstein, "A Hard Look. Alternative to Arab Boycott List: Bribe," *San Francisco Sunday Examiner and Chronicle*, 27 December 1976, p. 6.

[11] U.S., Congress, House of Representatives, Committee on Interstate and Foreign Commerce, Hearings before the Subcommittee on Oversight and Investigations, 96th Congress, 2d sess., serial no. 96-56, (Washington, D.C.: Government Printing Office, 14 June 1979), p. 16.

[12] Mark Postin and Michael Hooker, *Business Horizons* (December 1980): 46.

[13] Hearings, p. 16.

[14] U.S., General Accounting Office, Comptroller General of the United States, *Impact of Foreign Corrupt Practices Act on U.S. Business*, AFMD-81-34, (Washington, D.C., 4 March 1981).

[15] Ibid., p. 15.

[16] Ibid.

[17] W. M. Agee, "The Moral and Ethical Climate in Today's Business World," *Public Affairs*, the Bendix Corporation, (Southfield, Mi: Bendix Corporation, 1977).

[18] Heinz Murimann, "Government Aids Business," *San Francisco Chronicle*, 9 November 1976, p. 49.

[19] Reported in a Reuters release, published as "Bribes of Cash, Girls But No Scandal," *San Francisco Chronicle*, 6 May 1976, p. 14.

[20] Nihon Keizai Shimbum "Unclear Spendings by Companies Hit Big Figure," *The Japanese Economic Journal* (17 February 1981): 4.

[21] U.S., General Accounting Office, p. 45.

[22] Ibid, p. 46.

[23] William T. Coleman, Jr., "Government Regulation of Foreign Business Practices—A Reassessment," *Financial Executive* (September 1980): 39.

[24] *Congressional Quarterly*.

EDWIN C. DUERR is a professor of management and Chairman of the Board of Governors of San Francisco State University's research corporation. He has lived and worked in Asia, Europe and Latin America. Presently he is conducting a study of organizational structure and management practices in two large navy commands.

MANLY E. "TOM" STALEY is an assistant professor of management and a consultant for the Center for Small Business at San Francisco State University. His major research interest is the impact of Federal Reserve policy on small businesses.

B. L. Kedia and Stephen Young

Foreign Direct Investment in Louisiana: Employment and Environmental Impact

The amount of foreign direct investment in the United States has risen significantly since the mid-1960's. Among the ten southeastern states, Louisiana continues to rank first in terms of the total book value of property, plant and equipment invested by foreign-owned manufacturing firms in this country. The size, nature and location of this investment has important implications for the state's employment and environmental conditions. Most foreign-owned manufacturing firms in Louisiana tend to be large and capital-intensive. In addition, the concentration of foreign firms in the field of chemical and allied products adds to an already existing environmental problem in the state. On balance, foreign direct investment in Louisiana seems to be a mixed blessing for the state.

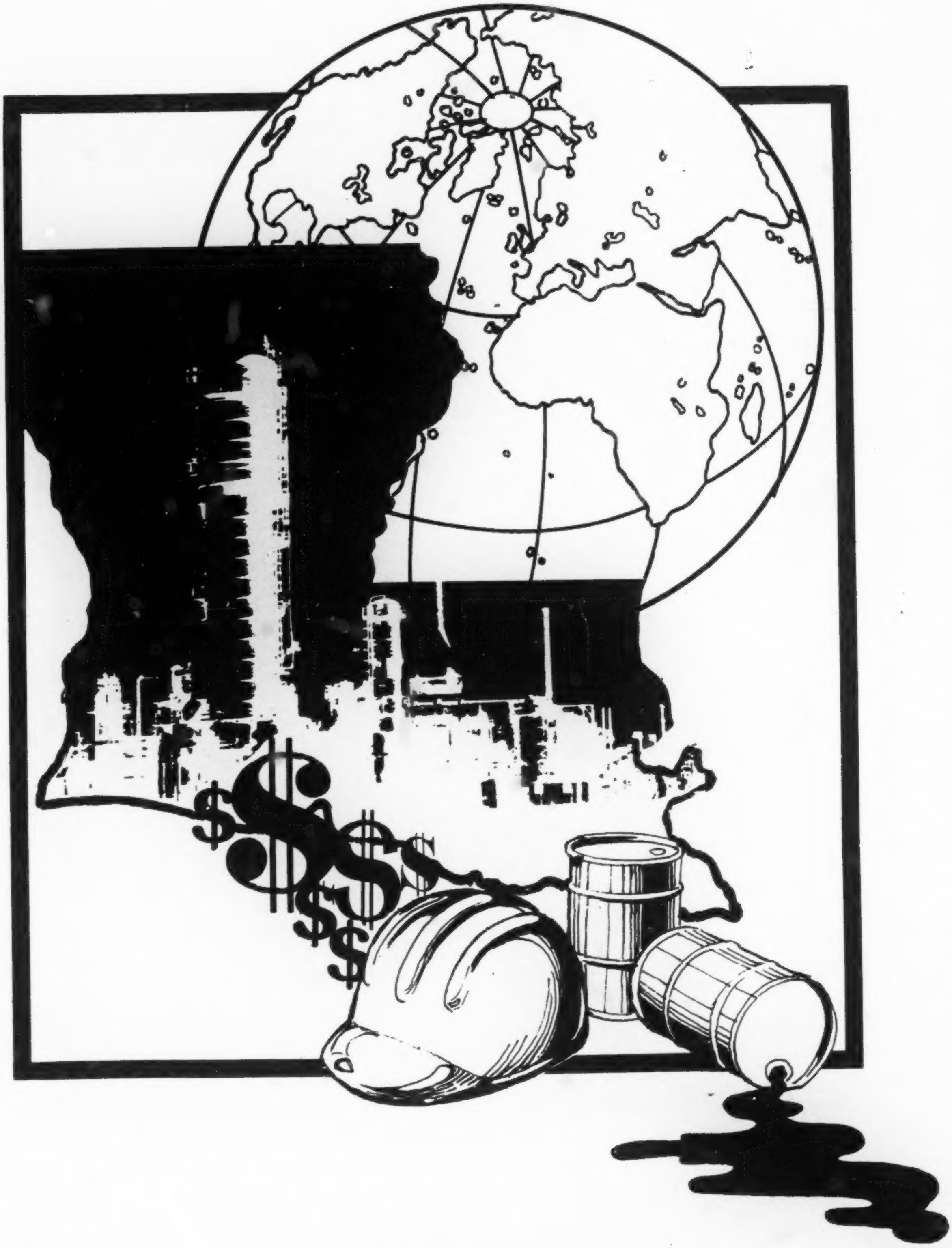
The primary purpose of this paper is to examine the positive and negative effects on employment and the environment in Louisiana from the operation of foreign-owned multinational manufacturing facilities in the state. The information on foreign facilities is derived primarily from a sample survey conducted by the authors. Interviews were conducted with thirty-seven of the fifty-two foreign manufacturing plants in Louisiana (71 percent) from February-April of 1980.

Before examining the impact of this foreign direct investment in Louisiana, a brief review of the characteristics of the foreign sector is necessary to put things into perspective.

OVERVIEW OF FOREIGN DIRECT INVESTMENT IN LOUISIANA

Foreign direct investment (FDI) in Louisiana dates to the construction of a refinery by the Royal Dutch Shell Company about 24 miles up-river from New Orleans in 1916. However, the largest amount of FDI in Louisiana, as in the rest of the United States, has taken place since 1965. It should be pointed out that a significant amount of FDI has taken place by acquisition of old, established local firms as opposed to the construction of new plants. For example, while the International Salt Company has only recently been acquired by AKZO N.W., the giant Dutch organization, the original company had been mining salt at Avery Island since 1899.

Aggregate statistics on the growth and significance of FDI at the state level are very scanty. According to the U.S. Commerce Department benchmark study, the book value of property, plant and equipment owned by foreign manufacturing firms in the Southeast in December 1974 amounted to $9,405 million (20.7 percent of the U.S. total).[1] Of the ten southeastern states listed in Table 1, Louisiana ranked first, with nearly 28 percent of the regional investment in property, plant and equipment by foreign companies. This same data source reveals that the foreign corporations operating in Louisiana are largely European Community based. The United Kingdom accounted for 29 percent of total foreign property, plant and equipment and the other eight European Community members (Germany, France, Italy, Netherlands, Belgium, Luxumbourg, Denmark and Ireland), for nearly 59 percent. This degree of concentration of national origin



of foreign investment in the state is a good deal higher than in the rest of the Southeast. What is particularly striking is the concentration of property, plant and equipment in the petroleum industry (oil and gas extraction, and petroleum refining) in Louisiana. Petroleum affiliates accounted for over 70 percent of total foreign investment in the state compared to around 25 percent for the Southeast as a whole in 1974.

More detailed data for 1977 are now available from the U.S. Department of Commerce.[2] While the 1977 and 1974 data are not directly comparable,[3] it does appear that FDI in Louisiana has grown less rapidly than in some other southeastern states (Table 1).

Louisiana retained its number one ranking in 1977, but the state's share of the southeastern stock of foreign-owned property, plant and equipment declined noticeably. Of course, this may be partly due to the timing of the data collection, since one large project could have a major impact on the total stock of investment and on relative rankings among the states.

In contrast, Louisiana was ranked only seventh among the southeastern states in terms of the employment generating effect of FDI.[4] For the southeastern states as a group, the industrial structure represented by the employment in foreign firms is more diversified than in Louisiana. Two thirds of the employment in foreign firms is in the manufacturing industry for the Southeast, compared with under two fifths for the state. Although the chemical industry is the largest foreign employer in the Southeast, the food, machinery, metals and other manufacturing industries all contribute a significant number of jobs in the foreign sector. Both in terms of the value of property, plant and equipment, and employment, the chemical industry is more important in the Southeast as a whole than in Louisiana. The types of products manufactured and processes used are quite different for the region versus the state. The data reveal that the chemical industry in Louisiana is a good deal more capital intensive than elsewhere in the Southeast,[5] which primarily reflects locational factors. Most chemical industry employment is engaged in manufacturing basic organic and inorgranic chemicals and products, such as plastics in Louisiana. These first-stage processing facilities prefer to locate near either the domestic source of the raw materials used for production, (for example, mineral and gaseous feedstocks) or where the raw materials are imported into the country. Second stage processors prefer locations closer to final markets. Presumably this explains the concentration of these type of facilities in North and South Carolina.

These data reveal that the distinct locational attractions of Louisiana have had an important influence on the pattern of FDI in the state.

EMPLOYMENT IMPACT

In studies concerning the role of FDI in host economies, the employment contribution of foreign affiliates emerges as a key issue. More specifically, the employment concentration in terms of establishment size, sector and region is of particular importance since "total employment penetration" (the relative number of host country nationals hired by foreign companies) is rarely high enough to be a cause for comment or concern.

TABLE 1

Gross Book Value of Property, Plant and Equipment of Foreign Firms in the Southeast (1974 and 1977)[a]

1974				1977			
Rank[a]	State	Value (Millions of dollars)	Share of Southeast Total (Percentage)	Rank[b]	State	Value (Millions of dollars)	Share of Southeast Total (Percentage)
1	Louisiana	2,616	27.8	1	Louisiana	3,032	23.1
2	South Carolina	1,437	15.3	2	South Carolina	2,046	15.6
3	North Carolina	1,297	13.8	3	North Carolina	1,674	12.8
4	Florida	904	9.6	4	Georgia	1,373	10.5
5	Tennessee	736	7.8	5	Tennessee	1,283	9.8
6	Alabama	645	6.9	6	Alabama	1,214	9.2
7	Georgia	639	6.8	7	Florida	1,163	8.9
8	Virginia	637	6.8	8	Virginia	744	5.7
9	Mississippi	330	3.5	9	Mississippi	473	3.6
10	Arkansas	163	1.7	10	Arkansas	123	0.9
	Southeast	9,405	100.0		Southeast	13,124	100.0
	United States	45,454	—		United States	61,401	—

[a] 1974 and 1977 data are not directly comparable.

[b] In terms of employment Louisiana was ranked seventh in the Southeast in 1977, accounting for 8.1 percent of the southeastern employment total.

Sources: U.S., Department of Commerce, *Foreign Direct Investment in the United States*, vol. 2, Table J-1 (Washington, D.C.: Government Printing Office, April 1976) for 1974; and U.S., Department of Commerce, Office of Foreign Investment, "Selected Data on the Operations of U.S. Affiliates of Foreign Companies, 1977," *Survey of Current Business* (July 1980): 32-44 for 1977 data.

Size, Sector and Regional Distribution of Employment

A comparison of foreign-owned manufacturing plants with all manufacturing establishments in the state indicates that the average size of foreign plants is much larger than that of all manufacturing plants in terms of employment in plants (with 281 employers per foreign establishment in the state compared to 80 for all manufacturing firms). Among a total of 2661 manufacturing establishments in Louisiana, only 78 (3 percent) were large manufacturers, each employing between 500 to 1000 persons. These 78 establishments accounted for 45 percent of the employment in the manufacturing sector in Louisiana (approximately 213,000 people). The manufacturing industry as a whole in the state is thus characterized by the existence of a small number of extremely large establishments. The two largest single domestic employers are Western Electric Company (Shreveport) and Avondale Shipyards Inc. (Avondale), which together employ 11,000 people. By comparison, in the foreign sector 19 percent of the establishments employ between 500 to 1000 persons, and account for 63 percent of the total employment in that sector (approximately 10,400 people, based on the thirty-seven establishments included in the study). The largest employers in the foreign sector are Shell Norco (2,000 workers) followed by Ciba-Geigy (1,040 workers). As such, no marked degree of economic power in terms of employment can be attributed to foreign-owned manufacturing firms in Louisiana.

Foreign-owned establishments display a higher degree of sectoral concentration than do their domestic counterparts in Louisiana. Over half of all foreign-owned establishments and about 70 percent of the total employment by foreign firms in the state is in the chemical and allied products sector. For the manufacturing industry in the state as a whole, this sector is also the largest employer, although it accounts for only 15 percent of the total employment of all manufacturing firms.

As Table 2 reveals, foreign establishments account for 1.4 percent of the total manufacturing firms and 4.9 percent of the total employment in the manufacturing industry in the state.

TABLE 2

Foreign Penetration in Manufacturing Industry in Louisiana

Manufacturing Industry In Louisiana	All Manufacturing	Foreign Manufacturing	Foreign as Percent of Total
All Manufacturing Firms			
Number of Establishments	2,661	37	1.4
Employment	213,079	10,412	4.9
Employment per Establishment	80.1	281.4	-
Chemical and Allied Products Sector			
Number of Establishments	189	21	11.1
Employment	33,038	7,189	21.8
Employment per Establishment	174.8	342.3	-

Source: Data on all manufacturing establishments is derived from lists in Louisiana Department of Commerce, Office of Commerce and Industry, *Louisiana Directory of Manufacturers* (Baton Rouge, 1979).

However, in the case of the chemical and allied products sector, foreign-owned firms represent 11 percent of all manufacturing establishments, and 22 percent of the total employment in manufacturing.

In terms of regional distribution, employment in the manufacturing industry in Louisiana is heavily concentrated in the areas surrounding the state's four major cities (Shreveport, Lake Charles, Baton Rouge, and, especially, New Orleans). Two thirds of all manufacturing employment is located in the parishes adjacent to these cities. Foreign establishments have found these areas to be even more attractive with 86 percent of their total employment concentrated in the eleven parishes involved (Jefferson, New Orleans, St. Charles, Ascension, East Baton Rouge, Iberville, West Baton Rouge, Calcasieu, Beauregard, Bossier and Caddo).

It is interesting to note that more than half of Louisiana's sixty-four parishes have at least one chemical refining or manufacturing plant. However, the greatest concentration of these establishments is in Lake Charles and the river parishes between Baton Rouge and New Orleans. Along the 100 mile "Chemical Corridor"[6] between these two latter cities, the Mississippi River banks are lined with more than 100 chemical plants and petroleum refineries in a series of petrochemical complexes. Interspersed with these facilities are metal manufacturers, grain elevators, sugar refineries and power plants, as well as a host of anciliary activities. Rapid expansion of this "Chemical Corridor" began in 1955 when the Wyandotte Chemical Corporation, the predecessor of BASF Wyandotte, purchased a site on the banks of the Mississippi River in Baton Rouge. The inevitable consequence of this pattern of development is that the penetration of foreign establishments, in terms of numbers and employment, is quite high in the areas between Baton Rouge and New Orleans. (For example, foreign firms account for nearly 11 percent of all manufacturing employment in the parishes surrounding Baton Rouge, and almost 50 percent, in Ascension Parish).

Method of Entry and Employment Contribution

One analyst has suggested classifying foreign direct investment into three broad categories: (1) "targeted investment" (directed specifically towards a state by an investor and involving either acquisitions or new ventures), (2) "incidental investment" (where a particular state may be involved incidentally, when a foreign firm

TABLE 3

Method of Entry of Foreign Firms With Establishments In Louisiana

Number of Manufacturing Establishments Operated by Parent Company in the U.S.	Acquisitions and Mergers	New Ventures	Total
1 - 2	1	3	4
3 - 4	5	1	6
5 - 9	2	1	3
10 - 19	10	4	14
20 - up	8	2	10
Total	26	11	37

Size Rank (Employment Basis) of Louisiana Establishment in Relation to All Manufacturing Establishments Operated by Parent Company in the U.S.	Acquisitions and Mergers	New Ventures	Total
1st	5	1	6
2nd	10	4	14
3rd	—	5	5
4th	2	1	3
Other	9	—	9
Total	26	11	37

acquires an existing U.S. company with a number of facilities and locations in the United States) and (3) "domestic investment" (undertaken when a foreign investor with existing operations in the United States decides to make a specific expansionary investment into a certain state).[7] "Domestic investment," especially of a significant size, could be regarded as a form of "targeted investment," since locational considerations are likely to dominate the decision process in either case. The key question from a policy viewpoint revolves around whether or not the investment was incidental or targeted, and if the latter, whether it took the form of a brownfield (acquisition of an existing plant) or a greenfield (new plant) venture.

A large number of foreign firms have entered the U.S. market through acquisition of existing U.S. firms since this method offers the advantages of speed and risk reduction. A large percentage of foreign-owned establishments in Louisiana, for example, have originated through takeovers of existing plants. The impact of such a strategy on host economies seems to depend on the nature of the firm acquired, how the multinational enterprise operates its acquired subsidiary and how the takeover was financed. In the case of acquisitions, the host economy is likely to benefit under any of the following three conditions: (1) if acquisitions are funded from abroad; (2) if acquisitions are of failing firms, when the foreign parents restore the operations to viability; or (3) if acquisitions are of small firms in which access to parent company capital and management has improved the prospects for host economy establishments. In terms of the effect on employment, under all these conditions, the contribution of foreign investment is positive, since the existing employment level will at least be maintained or even increase if the firm expands.

The important question then is what percentage of Louisiana's foreign-owned establishments represent targeted or incidental investment in the state. Table 3 provides data on the method of entry and size of Louisiana foreign-owned plants in relation to all plants operated by foreign parents in the United States. As the table shows, 70 percent of these establishments in Louisiana have come under foreign ownership throught takeovers. Furthermore, foreign-owned establishments in the state are generally not the sole or largest operation of the parent company in the United States. This indicates that the majority of foreign-owned firms in Louisiana represents some sort of "incidental investment."

What then are the implications of this method of entry on employment growth in Louisiana? This question was raised in the discussions with the firm executives who were surveyed. Their answers indicate that the expansion potential of employment in foreign-owned operations is fairly limited in a number of plants.

This observation may be attributed to the fact that a good proportion of the acquisitions have concerned "market-based" (location of firms close to major markets) firms. Since Louisiana is not an attractive location for consumer goods firms supplying national markets, the market-based companies in the state are mainly those supplying local, state, or, less commonly, southern markets. This sets a limit, inevitably, on the expansion prospects of the firms.[8]

Needless to say, employment expansion is greatest with greenfield operations which require the construction of new facilities and hiring of new employees. Although within all industrial sectors, these targeted greenfield ventures are in the minority, a much higher proportion of companies in the chemical and allied products sector have located in Louisiana through new ventures than is the case with firms in other industrial sectors. This confirms the attraction potential of the state's raw materials and natural resources. It is important to note that in Louisiana it is the chemical and allied products sector which seems to be the principal determinant of expansion prospects, whether or not the investment was targeted or incidential, a new venture (greenfield) or an acquisition (brownfield). Thus, for example, one of the most rapidly growing foreign-owned firms in Louisiana is BASF Wyandotte, an acquisition, but in the chemical and allied products sector.

Reflecting the existing structure of foreign manufacturing activity in Louisiana, recent foreign direct investment projects have been small in number and in associated employment, but very large in terms of capital expenditure. In 1978 there were few investment announcements but, interestingly, the single largest project was outside the dominant petrochemical sector. Voest-Alpine, an Austrian company, formed a joint venture with Bayou Steel Company to construct a steel mill with an annual output of 80,000 tons of steel billets. The cost of the investment was put at $120 million, with the facility employing 600 people. Production was scheduled to begin in 1980.[9] For the whole of 1979, eighteen foreign projects were announced, with a combined investment cost of $332 million. This represents 10.4 percent of total planned capital spending by manufacturing firms (domestic and foreign) in the state. What is fairly striking is the low direct permanent job creation effect that could be expected from this investment. Although over 3,300 construction jobs would be created when these investment plans materialized, only 573 additional jobs could be expected to be permanent. Four hundred of the latter jobs were to be created by two projects outside the petrochemical complex, the first by Airco in producing graphite and the second, by Siemens-Allis in expanding its electronics facility. However, Airco's plans to produce graphite were subsequently abandoned due to cost overruns, resulting in the loss of the 1,200 construction and 300 permanent new jobs that were first anticipated.

During the first half of 1980, only three foreign investments were announced. One of these by Shell involved over $700 million in capital expenditures, confirming, as one company executive remarked, "Shell's love affair with Louisiana." The project represents an expansion of roughly 35 percent at Shell's Norco complex, and includes an olefins plant and a butadiene plant. The latter will be twice the size of the world's currently largest butadiene plant, located at the Shell facility in Deerpark, Texas.

The foreign sector is thus quite buoyant, and the effect of recent developments will be to increase foreign employment penetration slightly. However, the number of jobs associated with the recently announced projects is quite small. Some sectoral diversification is apparent in employment terms. However, recent developments substantially increase firm-level concentration in terms of relative capital investment stock, since four companies (Shell, BASF, Hoechst and ICI) together account for sixteen of the twenty-one projects announced in the eighteen months from January 1979-June 1980.

Indirect Employment Effects

While the above discussion indicates the direct impact of foreign industry on jobs in Louisiana, this understates the overall effect of such investment on the state economy. Since foreign firms buy from and sell to many other sectors in the state, this produces a multiplier effect, whereby any direct employment expansion in the foreign sector will create additional jobs elsewhere in the economy. No data are available to distinguish between the multipliers associated with foreign as compared to indigenous investment.

While there remains a problem of data deficiency, information is available on sectoral multipliers,[10] revealing that the multiplier effect in the petrochemical sector is one of the highest of any industry. In particular, activities in the petroleum refining sector have a very strong "ripple effect." This industry's employment multiplier is the largest of the eighty-five economic sectors in the state. For every new job created in petroleum refining, 4.43 additional jobs are generated throughout the state. The multiplier for chemicals and pharmaceuticals, although slightly lower, its still well above that of most other sectors. No composite multipliers are calculated for the manufacturing industry as a whole. However, as a comparison, the employment multiplier for agricultural, forestry and fishery services is 1.20, and for the impact of new and expanded industry, 2.5, in Louisiana. Therefore, the industrial structure of the foreign sector in Louisiana is such that the multiplier effect of multinational activity tends to be a good deal higher than that of all industry in the state.

Another indirect effect of FDI in Louisiana is created by the high wage payment for jobs in the petrochemical sector. In 1976, foreign-owned manufacturing establishments paid average salaries of $16,000 per person. This compares with average salaries of $12,600 for all manufacturing industries in the state. For the United States as a whole, the comparable figure was $13,300, and for the Southeast, $11,400. Obviously, the highly paid jobs in the foreign sector enhance the multiplier effect of mulinational activity.

ENVIRONMENTAL IMPACT

It is not uncommon to hear the remark that "the South is soft on pollution," the implication being that the movement of industry (particularly the chemical sector) towards the South is due to less stringent or less stringently enforced environmental regulations in the region. In the case of Louisiana, there seems to be some truth in such allegations. Respondents to the authors' survey were asked to comment on the air and water pollution control laws and the way these were implemented in Louisiana. In the vast majority of cases, executives in the foreign firms felt either that the laws were no worse than elsewhere or were implemented less severely in the state than elsewhere. Seven firms remarked that Louisiana was lagging behind other states, particularly those in the Mid-West, Northeast and California, in enforcing pollution control laws. Comments included: "The situation here is typical of what is happening throughout the rest of the U.S.A. In some respects this area is more lenient than elsewhere;" "the laws may be implemented less severely than in some other places;" "the laws are the same for everybody within the United States, but are better here than elsewhere." The fact that, conversely, only three of the thirty-seven companies responding complained that the laws were unreasonable speaks for itself. In one of these cases, the company argued that while the laws were acceptable for Baton Rouge and New Orleans, they should be weakened for rural locations. In another instance, a firm complained about the lack of liaison between the state and the parishes. Finally, in the third case, the essence of the complaint was that the laws were only applied to large operations.

Certain of the petrochemical companies were beginning to experience problems over the disposal of wastes. In one case, the closing of a hazardous waste site had left the operation without a dump site in the surrounding area. While another firm was being forced to consider the problems which could emerge from having its own three acre lake for dumping waste in the middle of an urban area in New Orleans. Difficulties with spillages were also becoming apparent, as in one establishment where an oil spill from the plant leaked into a canal which drains into Lake Pontchartrain. After having spent $250,000 to prevent an occurrence of such an event, the company was then faced with further costs of $50,000 for clean-up operations and fines. Undoubtedly, hazardous wastes and spillages represent a problem of horrendous proportions in Louisiana. The state is one of five with thirty or more potentially hazardous waste sites inspected by the Environmental Protection Agency.[11] There are three particularly high risk dumps, and already at least one direct death has occurred from the inhalation of toxic fumes at a site.[12]

While it cannot be suggested that foreign firms are greater pollutants of the environment than domestic firms, the fact that foreign direct investment is concentrated in the chemical and allied products sector adds to an already existing environmental problem in the state. Such issues have attracted some media scrutiny (witness the reports appearing in 1979-80 linking high cancer rates in south Louisiana to the concentration of chemical industries there), but nothing like the amount of attention merited by the magnitude of the problem. Politicans, too, have not taken the problem as seriously as it deserves. In the nearest anyone has come to criticizing the Louisiana legislative representatives, a Baton Rouge newspaper commented that, in spite of a big growth in congressional activity on hazardous wastes, work is proceeding "without much impact from the Louisiana congressional delegation."[13] Their difficulty is the obvious one of wishing to minimize health and environmental hazards, without at the same time reducing economic benefits to the state.

At the local political level relatively little debate has been aroused on the issue. The implicit view is that industrialization is essential for the state, and that to provide this industrialization, the investment climate must be favorable. Clearly, the attitude towards environmental protection at the state level is one component of this investment climate. Of course, while laxity in the enforcement of environmental regulations might prove attractive to petroleum and chemical firms, it might have have a disincentive effect on companies in non-polluting industries.

SUMMARY AND CONCLUSIONS

It is apparent from the above discussion that foreign direct investment in Louisiana has been a mixed blessing for the state. The main benefits are represented by the huge capital investment programs of a small number of companies, which undoubtedly have been substantially funded from outside the state. There has also been a significant direct and indirect employment impact, with the former at least involving wage levels well above those for the manufacturing industry as a whole in Louisiana.

Adverse environmental effects, and, perhaps of major importance, problems associated with the concentration of foreign industry, represent cost items. The concentration question is particularly important because of its relationship to Louisiana's development goals. Economic base diversification and the attraction of labor-intensive industries may indeed be desirable goals for Louisiana. However, the evidence is that the reverse is likely to occur in the short to medium term, at least in the foreign sector.

With the inevitable continuing increase of foreign direct investment in the United States, Louisiana is likely to continue to receive its share. However, if diversification goals are desired, ample opportunities exist for adjusting tax incentives policies and attraction programs to invite labor-intensive and non-polluting industries to the state. For this, active and attractive policies are required.

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[1] U.S. Department of Commerce, *Foreign Direct Investment in the United States*, vol. 2 (Washington, D.C.: Government Printing Office, April 1976).

[2] U.S. Department of Commerce, Office of Foreign Investment, "Selected Data on the Operation of U.S. Affiliates of Foreign Companies, 1977," *Survey of Current Business* (July 1980): 32-44.

[3] Ibid, pp. 43-44.

[4] For a detailed assessment of the employment contribution of foreign firms in Louisiana and the Southeast see: B. L. Kedia and S. Young, "Foreign Direct Investment in Louisiana: Past Trends and Future Prospects," Part I, *Louisiana Business Review* 44 (July 1980): 2-8. This article was based on a different data source: U.S. Department of Commerce, *Selected Characteristics of Foreign-Owned U.S. Firms: 1975-1976*, (Washington, D.C.: Government Printing Office, November 1978).

[5] The value of property, plant and equipment per job amounts to $179,000 in Louisiana compared with $76,000 in the Southeast overall, $49,000 in North Carolina and $80,000 in South Carolina.

[6] For details of the "Chemical Corridor" and the establishments located there, see: BASF Aktiengesellschaft (West Germany), *BASF Review*, 2(1977).

[7] Mira Wilkins, *Foreign Enterprises in Florida: The Impact of Non-U.S. Direct Investment* (Miami: University Presses of Florida, 1979), p. 12.

[8] The literature distinguishes between investment attracted mainly by raw material supplies (resource-based) and those influenced by transport costs and proximity to markets (market-based). A third group—foot-loose—may be identified. This comprises firms for which raw material sources are unimportant, and for which transport costs for inputs and outputs are low. Eighteen of the thirty-seven establishments surveyed were classified as market-based, and fifteen of these were established through acquisitions.

[9] It is worth commenting that, based on an analysis of Conference Board figures, the dollar investment in the project represented one quarter of all foreign direct investment in the Southeast in monetary terms during 1978. For further details, see: B. L. Kedia and Stephen Young, "Foreign Direct Investment in Louisiana: Past Trends and Future Prospects," Part II, *Louisiana Business Review* 44 (August 1980):5.

[10] Loren C. Scott, "The Petroleum Industries in Louisiana," *Louisiana Business Review* 41 (March 1977): 2-4, 11-12.

[11] "The Poisoning of America," *Time*, 22 September 1980.

[12] "La Solons Not Leading Chemical Waste Debate," *Sunday Advocate* (Baton Rouge, La.) 25 November 1979.

[13] Ibid.

B. L. KEDIA is an associate professor of management in the College of Business Administration at Louisiana State University, Baton Rouge. His major areas of academic interest are business policy and international business.

STEPHEN YOUNG is a senior lecturer at the Strathclyde Business School in Glasgow, Scotland. His major areas of academic interest are international economics and multinational enterprises.

NATIONAL NEWS OF NOTE

1981 Tax Freedom Day Expected Later Than Ever

According to an April report by economists at the Tax Foundation, Inc., "Tax Freedom Day" is expected to fall on May 10 this year, six days later than the revised date for 1980.

Tax Freedom Day originated in 1948, when Dallas L. Hostetler, a Florida businessman, conceived the idea of a national tax freedom holiday. Then, as now, the day represented the first day of the year when the average American taxpayer began working for himself, instead of for the funding of federal, state or local government activities through his annual tax obligations.

Over the years, the American worker has had to spend more and more time on the job just to satisfy the tax collector as the table below shows:

Year	Tax Freedom Day
1930	February 14
1940	March 9
1950	April 4
1960	April 18
1970	April 28
1975	April 29
1976	May 2
1977	May 3
1978	May 3
1979	May 4
1980	May 4
1981	May 10

Source: Tax Foundation, Inc., *Monthly Tax Features* 25 (April 1981):

Largest Item in American Household Budget? . . . Taxes!

Tax Foundation, Inc. economists estimate that the average American will spend two hours and forty-nine minutes of his eight hour workday to pay federal, state and local taxes in 1981. The tax bite is the largest item in the average American household budget. In fact, *all* taxes claim nearly twice as much time as the next largest expenditure item—housing and household operation—, and federal taxes alone claim nearly half an hour more time than any other single component of that budget, as shown in the following table.

Tax Bite in the 8-Hour Day
1981

Item	Hours and Minutes
Taxes, total	2 hrs. 49 minutes
Federal	1 hr. 56 minutes
State and local	53 minutes
Housing and household operation	1 hr. 28 minutes
Food and beverages	1 hr. 4 minutes
Transportation	43 minutes
Medical care	29 minutes
Clothing	22 minutes
Recreation	19 minutes
All other	46 minutes
TOTAL	8 hr.

Source: Tax Foundation, Inc., *Monthly Tax Features* 25 (April 1981): 1.

Earning More, But Enjoying It Less? . . . There's a Reason!

A key issue raised in the 1980 presidential elections centered around the direction of change in the American standard of living over the last decade. Median family income statistics recently reported by the Tax Foundation seem to bear out the impression that indeed the average American was "earning more, but enjoying it less" during the last few years. In fact, as the accompanying table shows, in real after-federal tax dollars term, the average family of four had less income to spend in 1980 ($7,976) than ten years earlier in 1970 ($8,412).

The median income for the American "typical" family of four (two adults and two children) more than doubled between 1970 and 1980, from $9,750 to $19,950. However, during this same time span, the purchasing power of those dollars did not keep pace for two important reasons: taxes and inflation. Federal income taxes grew slightly faster than gross income for the American family of four during the 1970's, from $964 in 1970 to $2,028 in 1980. Social security taxes grew even more rapidly during that period, more than tripling from $374 in 1970 to $1,223 in 1980. Not even taking into account other federal, state or local taxes, these two taxes alone decreased the average American's take-home pay by nearly two and a half times as much in 1980 ($3,251) as in 1970 ($1,338).

Nonetheless, this after-tax income (adjusting for federal income and social security taxes only) of the typical American family grew substantially during the decade from $8,412 to $16,699. However, after adjusting for inflation it appears that this family of four had five percent less income to spend on non-tax items at the end of the decade. Although the purchasing power of this after-tax median income did slightly increase during 1971 and 1972, during the remainder of the decade it persistently declined.

In 1972 the median-income family took home the equivalent of $9,006 in purchasing power (measured in 1970 dollars). By 1976, this figure had dropped 3.6 percent to $8,683. Finally, in 1980, the average American family of four had 8.1 percent less in spendable income than it had four years earlier.

Median Family Income Before and After Taxes and Inflation

Year	Median Family Income	Social Security and Federal Income Taxes	After-tax Income[a] Current Dollars	After-tax Income[a] 1970 Dollars
1970	$ 9,750	$1,338	$ 8,412	$ 8,412
1972	11,152	1,453	9,699	9,006
1976	15,016	2,286	12,730	8,683
1980 (est.)	19,950	3,251	16,699	7,976

[a] Adjusted for federal income and social security taxes only.

Source: Center for Education and Research in Free Enterprise, *Pathfinder* 3 (March/April 1981): 1-2.

Susan J. Linz

United States Trade Restrictions and Soviet Political Policy:

Impact of the 1980-81 Grain Embargo

Recent attempts by the United States to use trade leverage to attain non-economic concessions from the Soviet Union have not, in general, been successful. The 1980-81 grain embargo is an excellent example of the lack of effectiveness of such an approach to foreign policy making. This paper illustrates this point by first, examining the particular characteristics of the embargo and its impact on the Soviet economy; second, explaining the undermining effects on the economic impact of the embargo stimulated by both the actions of the Commodity Credit Corporation (CCC) and occurrences of redirected trade and transshipments; and third, mentioning the significance of the embargo to the Louisiana economy.

United States trade with the Soviet Union has always been highly politicized and most likely will remain relatively sensitive to political conditions. Since the U.S.S.R. is our principal adversary, economic relations in the form of trade restrictions or "leverage," for example, continue to be employed as instruments of foreign policy to a degree not matched in U.S. relations with other countries.

Recent attempts by the United States to use trade leverage to attain non-economic concessions from the Soviet Union (e.g., tying most-favored-nation tariff status to Soviet emigration policies, or making specific export sales dependent upon tactical Soviet concessions on human rights) have not, in general, been successful. The result of these policies has simply been to reduce U.S. trade, and, consequently, gains from trade with the U.S.S.R.[1]

The 1980-81 grain embargo is the most recent attempt by the United States to use trade leverage to gain non-economic concessions from the Soviet Union and is an excellent example of the lack of effectiveness of such an approach to foreign policy making. The remainder of this paper will illustrate this point by examining first, the particular characteristics of the 1980-81 grain embargo, and its impact on the Soviet economy; second, explaining the undermining effects on the economic impact of the embargo stimulated by both the Credit Corporation (CCC) and occurrences of redirected trade and transshipments; and third, mentioning the significance of the embargo to the Louisiana economy.

CHARACTERISTICS OF 1980-81 EMBARGO

In response to the Soviet intervention in Afghanistan in late December 1979, President Carter terminated shipments of agricultural commodities and products, including corn and wheat, to the Soviet Union.[2] Soviet authorities had planned to import nearly 35 million tons of grain in 1980 to augment the growth of their livestock herds in order to improve the meat component of the Soviet diet. Prior to the embargo, the Soviets were permitted by the United States to import up to 25 million metric tons of U.S. grain (over 70 percent of total planned Soviet grain imports) between October 1979 and September 1980 to help compensate for the shortfall in Soviet grain production at that time. However, the suspended deliveries did not include the 8 million metric tons of grain guaranteed under the terms of the 1975 U.S.-Soviet five year trade agreement.[4] Hence, 17 million metric tons were to be withheld from the Soviets by the embargo. This quantity represents about 16 percent of Soviet grain requirements for livestock fodder, and is approximately equal to the current volume of total annual grain (non-rice) exports of Argentina, Australia, South Africa, Canada and France.[5]

Circumstances in January 1980 seemed to ensure success of the grain embargo in substantially reducing Soviet grain supplies, thereby thwarting the leadership's efforts to satisfy domestic demand for livestock products, principally meat. First, the 1979 Soviet grain harvest was 46 million tons (about 21 percent) short of their production targets because of dry weather in early 1979. Thus, the planned grain imports of 35 million metric tons in 1980 were to offset the imbalance between available domestic grain supplies and Soviet requirements for livestock fodder. Had the embargo been completely effective in restricting Soviet grain imports by 17 million metric tons, the Soviets would have been denied nearly half of their total planned grain imports in 1980. Second, major suppliers in the rest of the world were less prepared than usual to assist in meeting Soviet import needs because of their own poor harvests, record demand for grain and transport bottlenecks at that time.

The grain embargo was inadequate, however, in at least two respects. It failed to offer a contingency plan for control over both the volume and direction of U.S. grain exports. Furthermore, it was ineffective in eliminating the transshipment of grain to the Soviet Union through other countries, most notably those in Eastern Europe. As a result, the embargo was of little significance in reducing grain imports to the Soviet Union. Indeed, the U.S. Department of Agriculture (U.S.D.A.) estimates that the Soviet Union imported 32 million tons of grain in the year that ended in June 1980, only 2.5 million less than it planned to import prior to the embargo.[6]

IMPACT ON SOVIET ECONOMY

The shortcomings of the grain embargo in influencing Soviet economic and political policies are evident upon examination of its potential and actual immediate, short-run and long-run effects. In the very short-run, or current market period, the quantity of grain supplies, including inventories, is fixed. In the short-run, grain supplies may be augmented by alternative import sources, while in the long-run grain supplies depend upon both planned imports and domestic production.

Impact in the Very Short-Run

The most severe immediate impact of the grain embargo on the Soviet economy would have been for the Soviets to have resorted to a policy of "distress slaughter" of livestock. Prior to the Soviet policy decision of the late 1960's to use imported grain to offset shortfalls in domestic grain production, excess livestock inventories were slaughtered in order to reduce livestock fodder needs to the limited level of available domestic feed supplies during poor grain crop years. Treating livestock as a residual sector and resorting to distress slaughter in 1980 would have increased meat supplies in the current market period when grain supplies were fixed, and adversely affected long-run increases in livestock herds.

In a "good" to "excellent" crop year, a one-year embargo by the United States on grain exports to the Soviet Union would have little effect upon the production of meat and meat products in the Soviet Union. The potential effectiveness of the grain embargo rested upon the fact that the 1979 harvest was the worst since the last previous serious shortfall in Soviet grain production in 1975. The 1979 harvest, however, did not create as poor an outlook as was the case in 1975. Nor did the added burden of the embargo reduce the situation to conditions as unfavorable as those in 1975. Distress slaughter was used in 1975 because the grain harvest that year fell 55 million metric tons short of the previous year's harvest and about 80 million tons short of the production targets set by Soviet authorities. By comparison, the 1979 harvest fell about 58 million tons short of the 1978 harvest, but only about 46 million tons short of the 1979 production targets. The Soviet Union imported 26 million tons of grain in 1975-76, and planned to import about 35 million tons in 1979-80 to help offset the harvest failures of those years. Had the embargo been completely effective and had Soviet grain imports been restricted by 17 to 29 million metric tons as anticipated by U.S. policy makers, the overall shortfall in 1980 would have been 26 million tons, as opposed to that of nearly 40 million metric tons in 1975. As a result, distress slaughter was not used by Soviet planners in response to the recent grain embargo as it was in 1975. In fact, livestock feed was only reduced by about 3 percent

from April to June because the Soviets were able to draw an estimated 17 million tons from feed reserves.[7] This option could not have been sustained over the long-run, however.

The usefulness of comparing the reaction of Soviet planners to the 1975 shortfall with the 1979-80 experience is offset somewhat by three factors. First, the 1979 grain shortfall was less than the 1975 deficit. Second, 1975 was preceded by a relatively poor harvest year, whereas the 1978 harvest was the largest in Soviet history, which presumably stabilized the country's grain stocks. Third, the 1979-80 grain shortage was the product of a relatively poor harvest year plus an embargo by the United States which might cause Soviet planners to be more cautious in setting livestock herd growth rates so optimistically high in the future.

Short-Run Impact

In the short-run, weather condition fluctuations in the U.S.S.R. have reduced Soviet grain stocks by a more significant amount than what could have resulted from the U.S. embargo (which would have caused a maximum shortfall of 20 million metric tons of grain). For example, year-to-year variations in Soviet grain production have been as great as 84 million tons (1975 relative to 1976), an amount more than four times that which the United States could have successfully embargoed. Furthermore, the Soviets were able to make up the deficit created by the U.S. embargo by importing grain from alternative sources, most notably Argentina and Canada, and drawing down domestic grain stocks. However, the additional transshipment costs and premium prices the Soviets were obliged to pay to divert grain from traditional buyers were certainly real economic costs imposed upon them by the U.S. policy.

Long-Term Impact

Unless the current negotiations for a new long term trade agreement between the United States and the Soviet Union are successful, the Soviets may have to abandon plans for a rapid increase in the meat component of their diet. In spite of the fact that Argentina and Canada recently have signed five year trade agreements with the Soviet Union (January 1980 and May 1981, respectively), both countries combined are without the productive capacity to supply the U.S.S.R. with the quantity of grain previously supplied by the United States. This will mean even longer queues for meat, eggs and milk for Soviet consumers, unless the Soviets are able to expand domestic production by increasing efficiency through additional investment in irrigation, fertilizer production, or storage facilities, or by reclaiming forest or swamp land.[8]

If the embargo adversely affects future trade agreements between the United States and the U.S.S.R., world market agricultural prices may be more erratic and experience wider swings, which would be costly both to the Soviets and to U.S. farmers. Since 1972, one-half of all Soviet grain imports have come from the United States. These Soviet purchases have become an important source of earnings for U.S. farmers.

One result of the embargo, which is receiving much attention in the Soviet press, is the current expansion of the private sector of Soviet agriculture.[9] The Soviets claim that the embargo provided them with the resolve to become self-sufficient in agricultural production.[10] Evidence that the Soviet leadership is encouraging an expanded role for the private sector is found in the recent removal of the quantity restrictions for livestock on private plots and the additional independence allowed to agriculture organizations in planning their work.

IMPACT ON THE UNITED STATES

The United States supplies more than one-half of all grains[11] entering world markets and about three-fourths of the world's total feed grain exports (corn, primarily). U.S. exports of agricultural commodities to the U.S.S.R. valued at $1.9 billion in 1978 and $2.2 billion in 1979, constituted about 7 percent of total U.S. agricultural exports in both years. Grain exports accounted for over 80 percent of the value of U.S. agricultural exports to the U.S.S.R. in 1979. The 17 million metric tons of grain embargoed in 1980 was valued at about $2.3 billion.[12]

Role of the CCC

Without any offsetting action, it was estimated that the grain embargo would have reduced 1980 U.S. farm income by about $3 billion.[13] To reduce the burden of the embargo on U.S. farmers and to protect grain export firms, a variety of compensatory measures were taken by the U.S.D.A., acting through the Commodity Credit Corporation (CCC).[14]

The most obvious impact of the grain embargo in the United States was the sudden increase in grain stocks available for domestic consumption. Over 25 million metric tons of U.S. grain had been contracted for delivery to the U.S.S.R. After the embargo was imposed, only 8 million tons were to be delivered. Until alternative buyers become available, 17 million tons of grain had to be either stored or "dumped" on the market.

To prevent immediate congestion, the CCC purchased 4 million tons (150 million bushels) of wheat, and of that amount, assumed the contractural obligations for 3.7 million tons (135 million bushels) of wheat earmarked for delivery to the U.S.S.R. Plans were made to hold the wheat in an emergency food reserve. The CCC also had the authority to assume contractual obligations of up to 10 million tons (395 million bushels) of corn.

To offset the probable short-run price effect of the embargo (i.e., a decline in grain prices which would normally follow a substantial increase in the supply of grain) and to encourage farmers to place additional grain in farmer-owned reserves, government loan prices were increased for wheat and corn to $2.50 and $2.00 per bushel, respectively.[15] Reserve release prices were also raised to $3.75 and $2.63 per bushel for wheat and corn, and reserve call prices increased to $4.63 and $3.05 for wheat and corn, respectively.[16] Interest charges on the loans the farmers made against grain held in farmer-owned reserves were waived for a year for the first 13 million additional tons of corn entering farmer-owned reserves after the embargo was imposed. In addition, reserve storage payments (payments to farmers for storing grain) were increased from 20 cents to 26.5 cents per bushel for all reserve commodities, except oats. The cost to the U.S. government (in essence, U.S. taxpayers) resulting from these policies was $2.8 billion.[17]

Despite these measures, 1980 farm prices in the United States did not keep up with the rise in production costs, resulting from higher fuel and other input prices, although last year's drought boosted farm prices and partially compensated for the decline in grain prices that followed the imposition of the embargo. The American Farm Bureau Federation, the nation's largest farm organization, concluded that farm income losses directly attributable to the grain embargo totaled $1.8 billion in 1980.[18]

Problems of Redirected Trade and Transshipments

The skeptical attitude many U.S. economists took toward the grain embargo may reflect the fact that U.S.-Soviet trade represents a textbook example of the meaning of comparative advantage.[19] Since both sides gain from trade where it is grounded in comparative advantage, it follows that both sides lose when trade is interrupted for non-economic reasons. Economists were also skeptical of using the embargo as a diplomatic tool, since it clearly threatened to undermine future trade agreements between the United States and the U.S.S.R. In addition, the fact is that very little is known about the long-run effects of embargoes. It does appear, however, that embargoes tend to reduce an economy's comparative advantage by stimulating import substitution or other competitive alternatives.

The fact that alternative grain sources become available to the Soviet Union helped to minimize the impact of the grain embargo. In response to the premium prices the Soviets offered these countries to decrease their surplus grain stocks, and in spite of a conference called by President Carter in which he asked major grain exporting countries to hold 1980 grain sales to the U.S.S.R. at "normal" levels, many of these countries redirected grain exports from traditional customers to the U.S.S.R. Measured against the average trade volume over the previous seven years, grain exports to the U.S.S.R. from Canada, Australia and the European Community more than doubled in 1980, increasing by about 5 million tons. Argentina did not support the U.S. embargo and redirected trade from Italy, Spain, Japan, Chile and Peru to supply about 4.5 million tons of corn and grain sorghum to the U.S.S.R. For the most part, U.S. grain exports no longer destined for the Soviet Union filled markets abandoned by other countries selling to the U.S.S.R.

Not only was world grain trade redirected from traditional customers to the U.S.S.R. after the U.S. embargo was imposed, but transshipment (transferring for further transportation) of grain was also pervasive. Prior to the embargo, for example, East European countries were planning to import about 16 million tons of grain in 1980, mostly from the United States. In spite of good harvests in many of these countries in 1979, their import total increased to over 18 million tons in 1980. Roughly two-thirds of these total imports were feed grains, which was exactly what the Soviets needed. Clearly, the value of the U.S. grain embargo in substantially reducing Soviet grain imports was practically eliminated because of the numerous leaks.

IMPACT ON LOUISIANA

The economic impact of the grain embargo on production, employment, income and tax revenues in Louisiana was negligible for two reasons. First, Louisiana farmers do not produce wheat and corn for export to the U.S.S.R. Secondly, the volume of grain passing through Louisiana ports did not fall in 1980.

Agricultural exports are a major source of farm income in the state. Louisiana soybean farmers produce almost exclusively for foreign markets (primarily Japan), shipping more than 90 percent of their annual production, while the national average is less than 50 percent. Rice farmers in Louisiana also depend upon foreign markets for approximately 80 percent of all sales. Nationally, less than 60 percent of rice production is exported. However, corn and wheat are not grown in Louisiana for export to the U.S.S.R.

Had the embargo resulted in reduced grain exports for the whole United States, the economic impact in Louisiana would have been noticeable, as the state's foreign trade sector accounts for about 20 percent of the gross state product.[20] Nearly 40 percent of all grain produced in the United States for export moves through the ten elevators between Baton Rouge and New Orleans. New Orleans is considered by some to be the world's second largest port. In fact, the Port of New Orleans is the state's largest single industry, with approximately 37,000 persons directly involved in full-time occupations generated by the port. The Port of New Orleans handles about 80 percent of Louisiana's exports of manufactured goods and 50 percent of the state's agricultural exports.[21]

Grain exports through Louisiana ports did not diminish as a result of the grain embargo. Grain exports which moved through Louisiana ports totaled 1.7 billion bushels in 1979 and reached over 1.9 billion in 1980.[22] This represents a substantial increase from the 1.1 billion bushels in 1975, indicating the significance on total U.S. grain trade of the 1975 U.S.-Soviet trade agreement.

CONCLUSION

In spite of its lack of success, either in forcing the Soviets out of Afghanistan or in substantially reducing Soviet grain stocks, the embargo was continued for nearly sixteen months. Unlike the Olympic boycott (also employed by President Carter to punish the Soviet Union for its military occupation of Afghanistan), which died a natural death as the summer games came to an end, termination of the grain embargo was politically awkward as long as Soviet troops remained in Afghanistan. President Reagan ended the grain embargo last April after clarifying the U.S. position regarding Soviet political and military aggression.[23]

In addition to being ineffective in achieving its desired goals, it would also appear that the embargo was a questionable economic policy to have employed so early on in the conflict, especially where no contingency plans had been developed. The economic costs of the embargo and the incidence of those costs had several undesirable properties. In the United States, the short-run effects placed the burden on a very small population of grain farmers producing for export. By contrast, the economic costs were much broader and delayed in the U.S.S.R. The impact of the embargo will be felt by the Soviet consumer in the long-run as he is likely to face longer queues for meat, eggs and milk. The political consequences for the Soviet leadership of a deficit in meat production will most likely be mitigated by the fact that the shortages were caused by restrictions imposed by the United States.

Long-term consequences for U.S.-Soviet trade may be offset in the current negotiations. However, if the Soviets continue to engage in trade agreements with other countries, the resulting relative decline in Soviet demand for U.S. agricultural products will have serious implications for the long-run comparative advantage position of the United States. The effect of the embargo in redirecting and expanding grain trade to the U.S.S.R. by other countries may, however, buoy sales of U.S. agricultural equipment to these third countries.

[1] For an excellent dicusssion of this issue see: Thomas A. Wolf, "The Distribution of Economic Costs and Benefits of U.S.-Soviet Trade," in U.S. Congress, Joint Economic Committee, *Soviet Economy in a Time of Change: A Compendium of Papers*, 96th Cong., 2d. sess., vol. 2, (Washington, D.C.: Government Printing Office, 10 October 1979), pp. 317-41.

[2] The embargo also restricted deliveries of advanced technological equipment to the Soviet Union and Soviet fishing in water within 200 miles of the United States. See: U.S. Government Services Administration, National Archives and Records Service, Office of the Federal Register, *Weekly Compilation of Presidential Documents* 16 (14 January 1980): 162. An unofficial boycott by the International Longshoremen's Association may have delayed another 3 million tons of grain to the Soviet Union. See: James R. Millar and Susan J. Linz, "Grain Embargo—Widespread Economic Incidence," *Illinois Business Review*, 57 (March 1980): 2.

[3] As a basis of comparison, per capita Soviet meat and meat product consumption in 1978 were 75 percent of the U.S. level. See: Thomas Billet, "A Comparative Portrait of Soviet and American Agriculture," *Aglands Exchange* 2 (March-April 1981): 4.

[4] Under the terms of the 1975 U.S.-Soviet trade agreement the Soviets agreed to purchase, and the United States to sell, 6 to 8 million tons of U.S. wheat and corn per year in each twelve month period beginning in October 1976 and ending in September 1981. The trade agreement permits the Soviets to purchase more than the 8 million tons, after consultations with the U.S. government. An escape clause permits sales of less than 6 million tons if U.S. grain supplies (estimated stocks plus forecasted production) are less than 225 million tons. For further discussion, see: Judith G. Goldrich, "U.S.S.R. Grain and Oilseed Trade in the Seventies," in *Soviet Economy in a Time of Change*, pp. 133-64.

[5] Michael D. Zahn, "Soviet Livestock Feed in Perspective," in *Soviet Economy in a Time of Change*, p. 166.

[6] Robert L. Paarlberg, "Lessons of the Grain Embargo," *Foreign Affairs* 59 (Fall 1980): 154-55.

[7] Karl-Eugen Wadekin, *The Outlook for Meat and Grain Output in 1981-85*, Radio Liberty Research Report, no. 82-81 (Munich, 24 February 1981), p. 3.

[8] In spite of the targets published recently in the eleventh Five-Year Plan, it is not very likely that this will occur in the near future, given the substantial costs involved in developing new territories and supplying adequate quantities of fertilizer. The costs may be justified, however, when compared to the cost of importing grain. The Soviets paid $226 per metric ton of imported grain in 1980, which, compared with domestically produced grain at $110 per ton (or $200 per ton on poorest land), was significantly higher.

[9] Private plots account for only about 18 million acres (3 percent of the total arable land in the U.S.S.R.), but provide about one quarter of total farm output.

[10] Keith Bush, *Major Decree of Private Plots and Livestock Holdings*, Radio Liberty Research Report, no. 38-81 (Munich, 26 January 1981), pp. 1-6; "Ideas on Farm-Private Plot Cooperation," *Current Digest of the Soviet Press* 33 (25 February1981): 1-6.

[11] Total grain includes wheat and coarse grains which are corn, barley, sorghum, oats and rye. See: Alan J. Webb, *World Trade in Major U.S. Crops: A Market-Share Analysis*, U.S.D.A. Report no. ESS-7 (Washington, D.C.: U.S. Department of Agriculture, April 1981).

[12] *Weekly Compilation of Presidential Documents* 16 (28 January 1980): 186.

[13] Ibid.

[14] The CCC is a government agency within the U.S. Department of Agriculture, responsible for directing and financing major U.S.D.A. "action programs," including price support, production adjustment, commodity disposition and other related programs. The CCC also directs and finances certain agricultural export activities, including credit sales, barter exchanges, export payments and foreign food aid activities. The CCC is capitalized at $100 million and has authority to borrow $14.5 billion for use in carrying out its programs.

[15] Government loan prices reflect the amount farmers could borrow against grain stocks held in farmer-owned reserves.

[16] Reserve release prices become effective when the domestic price (national average price) of grain is 40 to 60 percent greater than the loan price. At this time, the Secretary of Agriculture discontinues storage payment. If the grain is taken out before the release price comes into effect, the farmer pays a penalty charge. When the domestic price of grain exceeds the loan price by 75 percent, the release call price effect and the grain must be removed from storage.

[17] *Wall Street Journal*, 27 April 1981.

[18] Paarlberg, p. 148.

[19] Trade with the Soviet Union since 1975, mainly because of the tremendous comparative advantage of the United States in the production of agricultural products, has been particularly welcome because it produces a large net surplus and has helped, therefore, to reduce the U.S. trade deficit with the rest of the world. Other areas in which the United States has a comparative advantage, (e.g., military hardware or space-related technology) cannot be as easily exploited, and certainly not with the U.S.S.R.

[20] For further information see: Floyd Corty and J. C. Varela, *Foreign Agricultural Trade and Its Importance to Louisiana*, Department of Agricultural Economics Research Report no. 588 (Baton Rouge: Louisiana State University, October 1976); Viana and Associates, "Economic Impact of the Port of New Orleans: An estimation of Production, Employment, Earnings and State Taxes Generated in Louisiana by the Port of New Orleans," mimeographed (New Orleans, April 1976); John A. Reinecke and Caroline Fisher, "The Economic Impact of the Port of New Orleans," *Louisiana Business Survey* 12 (January 1981): 4-7.

[21] Viana and Associates.

[22] Linda Watson, Louisiana Board of Trade, New Orleans.

[23] *Weekly Compilation of Presidential Documents* 17 (27 April 1981): 32.

SUSAN J. LINZ is an assistant professor of economics in the College of Business Administration at Louisiana State University, Baton Rouge. Her major research interests include the Soviet economy and comparative economic systems.

LOUISIANA BULLETIN

Louisiana Property Tax Burden Ranks 50th in United States

Annual per capita property tax collections in Louisiana ($102) now (1979) rank fiftieth in the United States (including the 50 states and the District of Columbia), according to Tax Foundation economists reporting in the March 1981 issue of *Monthly Tax Features*. Ten years earlier (1969), Louisiana tied with Mississippi for forty-eighth place in this ranking. Only the residents of Alabama, who pay a yearly average of $73 in property taxes, enjoy a smaller property tax burden.

In addition, total state and local property tax collections, for the country as a whole, showed the first decline since World War II from 1978 ($66.4 billion) to 1979 ($64.9 billion). Researchers at the Tax Foundation attribute this 2.2 percent drop almost entirely to the impact of Proposition 13 in California, where property tax collections fell by nearly $5.0 billion, or 45.1 percent. Property tax collections continued to rise in all the other states, except Maryland, during this same period.

Relative to personal income, Louisiana experienced the fourth greatest property tax reduction in the country over the 1969-1979 decade (down 33 percent from $23 to $15 per $1000 of personal income). Only California (52 percent, from $63 to $30), North Dakota (38 percent, from $59 to $36) and Indiana (34 percent, from $49 to $32) exhibited greater declines in their property tax burdens calculated on the basis of income over this time span.

Lafayette's Personal Income Increase Among National Top Ten

For the second consecutive year, Lafayette, Louisiana ranked among the top ten of the nation's 273 Standard Metropolitan Statistical Areas (SMSA's) with the largest year-to-year increases in *total personal income*, according to the latest personal income data available (1979) and recently released by the Bureau of Economic Analysis of the U.S. Department of Commerce. From 1978 to 1979 total personal income in Lafayette increased 19.1 percent (from $1,143 million to $1,361 million), second only to Atlantic City's 20.1 percent rise. In fact, of the ten SMSA's with the largest percentage increases in personal income, Atlantic City alone was not located in the "Sunbelt" region of the country. Consequently, among the nation's sunbelt SMSA's, Lafayette's 1978-79 rise in total personal income took first place.

In terms of *per capita personal income* (total personal income divided by total population), Lafayette ranked thirty-second in the United States in 1979 (with $9878, or 13 percent above the U.S. average of $8,757), placing it in the top 12 percent of the country's 273 SMSA's and highest among Louisiana's seven SMSA's. In contrast, 1979 per capita personal income in New Orleans ($8,605), the second highest among Louisiana's SMSA's, ranked 2 percent below the U.S. average and 132nd in the country. Furthermore, one Louisiana SMSA, Alexandria (with $6,236) ranked third among the nation's ten SMSA's with the *lowest* per capita incomes for 1979, and 29 percent below the U.S. average.

The table below presents the total and per capita personal income data for the United States and Louisiana's seven SMSA's for 1969-1979.

Total and Per Capita Personal Income for the United States and by SMSA in Louisiana, 1969-1979

	Total Personal Income				Per Capita Income				
	Millions of Dollars			Percent Change	Dollars		Percent of National Average,	Rank Among SMSA's 1979	
Area	1969	1978	1979	1969-1979	1978	1979	1979	U.S.	LA.
UNITED STATES	738,233	1,712,066	1,927,005	12.6	7,846	8,757	100	—	—
LOUISIANA									
Alexandria	338	797	882	10.7	5,670	6,236	71	266	7
Baton Rouge	1,180	3,432	3,884	13.2	7,694	8,515	97	141	3
Lafayette	307	1,143	1,361	19.1	8,452	9,898	113	32	1
Lake Charles	430	1,131	1,305	15.4	7,135	8,084	92	181	4
Monroe	313	823	918	11.5	6,281	6,945	79	249	6
New Orleans	3,629	8,764	9,869	12.6	7,676	8,605	98	132	2
Shreveport	1,027	2,496	2,814	12.7	6,968	7,821	89	202	5

Source: U.S., Department of Commerce, Bureau of Economic Analysis, "1979 Personal Income Data for Countries and SMSA's Available," News BEA 81-27 (Washington, D.C., 20 May 1981).

Louisiana's 1970-1980 Per Capita Personal Income Increase Third Largest in Country

Per capita personal income (total personal income divided by total population) in Louisiana grew significantly faster than the U.S. and southeastern region averages (174.0 versus 142.9 and 153.0 percent, respectively) during the last decade from a level of $3,023 in 1970 to $8,282 in 1980. Per capita income statistics recently released by the Bureau of Economic Analysis of the U.S. Department of Commerce reveal that Louisiana's 1970-1980 rise was the third largest in the nation. Only Wyoming and North Dakota fared better, with percentage increases of 191.2 and 178.1 percent, respectively.

As in 1970, per capita personal income in Louisiana was still below the U.S. average in 1980 ($3,023 versus $3,893 for 1970; and $8,282 versus $9,458 for 1980). However, due to its relatively rapid rate of growth, Louisiana per capita personal income rose to 88 pecent of the U.S. average in 1980 from only 78 percent, in 1970. Finally, while Louisiana ranked forty-sixth among the fifty states in terms of per capita personal income in 1970, the state had taken an impressive jump to thirty-fifth place in 1980.

COLLEGE HIGHLIGHTS

MBA Student Report Places First in National Competition

A team of four LSU M.B.A. students has been awarded first place in the 1981 national Small Business Institute consulting report competition. This marks the third consecutive year that a report done by a LSU group has placed first in the southwestern regional competition, but the first time that a study by a LSU team has been ranked number one in the nation.

The award-winning management report was done for Precision, Inc., a Baton Rouge manufacturing firm. Precision managers credit the LSU study with turning a losing year into a profitable one for them.

Team members, who completed the study as part of a standard course requirement in the M.B.A. program, include: Susan Borgmeyer, Baton Rouge; Greg Faulk, Hammond; and J. T. Crystal and J. D. Feaster, Houston.

Multinational Management Program Held in Germany

The Third Annual Multinational Management Program was held in Germany this year from May 15-June 5.

The management problems posed by the rise of the multinational enterprise as a dominant force in business around the globe, prompted Dr. Banwari L. Kedia, Associate Professor of Management at LSU and Program Director, to found the program in 1979. The course aims to give its participants a greater appreciation for the challenges of operating simultaneously in many different cultural, political and economic environments.

Dr. Kedia reports that the 1981 three-week seminar was a total success. This year's twenty-nine participants attended lectures and discussions with officials from various businesses, industries and government agencies, as well as with faculty and students from colleges and universities throughout Germany. Their travel took them to about half a dozen German cities including Frankfurt, Bonn, Hamburg, Berlin and Munich. Visits with representatives of Hoechst, Bayer, the University of Cologne, Thyssen, the University of Hamburg, the Institute of International Management, Siemens and M.A.N. Maschinenfabrik, among others, provided the program members with valuable insights into business operations in foreign countries.

LSU Executive Program Enters Third Decade

The LSU Executive Program entered its third decade this summer with its twenty-first session, held on the Baton Rouge campus from June 7-19. Two hundred and twenty executives from thoughout the United States, Canada and Europe attended the session. Seven of the 90 participating companies sent their executives to the 1981 program for the first time, including Data Access Systems, Prime Computer Co., Quaker Oats, Rohm & HAAS, and PVF, Inc.

The program is designed for top executives of small and medium-sized firms and upper managers of larger organizations. An executive is nominated by his company on the basis of his achievements and potential for growth.

Several of the program's features make it unique. The format is built around a sequence of three, annual two-week sessions held in June. A comprehensive curriculum offers advanced coursework in five areas: management and organizational behavior; marketing; economics; law and the regulatory environment; and managerial accounting and finance. Two of the latest additions to the curriculum are strategic planning and executive health.

The faculty for the program are recruited from many disciplines and are selected on the basis of their recognized professional expertise and classroom effectiveness. The combination of leading professors from LSU's graduate schools and prominent faculty members, business leaders and attorneys from all over the United States ensures the successful exposure of the program's participants to both innovative concepts and established academic principles.

Over the years, the program's success has been attributed not only to each session's excellent academic content, but also to the fact that the event offers the opportunity for busy executives, who reside on the LSU campus during the program, to find time to reevaluate their priorities and review their intellectual reserves.

The 1982 session of the LSU Executive Program will take place from June 6-18. Additional information about the program can be obtained from:

Dr. David T. Crary, Director, or
Dr. Charles G. Martin,
Associate Director
LSU EXECUTIVE PROGRAM
College of Business Administration, CEBA 3159
Louisiana State University
Baton Rouge, LA 70803
Phone: (504) 388-3455.

Business Communications and Office Systems Department Name Becomes Official

The Faculty and Studies Committee of LSU's Board of Supervisors has approved a request to change the name of the former Department of Office Administration in the College of Business Administration to the Department of Business Communications and Office Systems. Dr. Stephen P. Golen, Chairman of the department, reports that the name change reflects the relatively recent expansion in the number of substantive courses his faculty members have been teaching in the area of business communications.

Recent Faculty Publications

Celeste Powers, instructor in the Department of Business Communications and Office Systems, has joint-authored the following textbook with three other Louisiana college professors: *Business Communications* (Boston: Houghton-Mifflin Co., 1980).

IN APPRECIATION

The **Louisiana Business Review,** a quarterly publication of the Division of Research in the College of Business Administration at Louisiana State University, is dedicated to providing worthwhile and timely information on local, state and national economic developments of interest to members of the Louisiana business and government communities. This objective is being achieved by presenting high quality, readable articles written by knowledgeable representatives from business, government and academia. The Division would like to express its sincere appreciation to the following companies whose valuable contributions have made this publication possible:

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